Croonian Lectures
ON
SOME POINTS CONNECTED WITH THE
ELIMINATION OF NITROGEN FROM THE HUMAN BODY.

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LECTURE II.

GENTLEMEN,—In endeavouring to trace the nitrogen of the food in its course through the system, it is necessary to commence with the simplest and best-ascertained facts. One of these has been only lately made out, but it is of great moment, and may be thus expressed. Within certain limits, the exit of nitrogen in healthy adults is governed by the entrance; in other words, the amount which passes out by the urine is regulated by that which passes in, and to a very small extent only by the muscular and nervous actions of the body itself. This cardinal fact, which, though perhaps dimly seen, was not fully recognised until the elaborate researches of Pettenkofer and Voit on dogs and men accumulated proof upon proof, is both tested and illustrated by the table used in the last lecture for another purpose. In healthy young men, nearly of the same age and weight, but on different diets, the excreted amount of nitrogen closely corresponded in each case to the entry. Not only so, but when in the same man the entry was varied, the exit varied, though all other circumstances of diet, exercise, &c., were unaltered. Take, for example, the first man on the list. I fed him on food containing 195 grs. of nitrogen; in twenty-four hours he passed by the urine 183 grs., the remainder doubtless by the bowels. I increased the nitrogen by 20 grs.; the urinary exit increased 21 grs. I increased the entrance by 59 grs.; the urinary exit increased 38 grs.

Another illustration is No. 5. I kept a man for ten days on a diet containing 300 grs., or a little more, of nitrogen; the mean daily exit by the urine was 306 grs. The experiment was then continued for ten days more on the same diet; the mean daily exit was 305 grs. Taking periods of ten days, it will be seen that the changes of the nitrogen in the body were remarkably uniform. I then reduced the nitrogen nearly to one-half; the exit at once followed suit, and, instead of 305 grs., only 169 were excreted by the urine. I have other instances of the same kind, proving that the exit of nitrogen may be regulated at will by altering the entrance.

There are two cases in which the entrance and exit do not so closely correspond. One is when a very large amount of nitrogen is given; some may then be retained. In most men, however, a certain quantity only of nitrogenous food can be digested: for example, when Ranke took 1832 grms. (=64 oz.) of meat, he digested 1182 grms. (=41¼ oz.); the rest emerged untouched.

If the excess of albuminous food consists of the eggs of fowls, it is a curious circumstance that, if absorbed, it is unassimilable; and, as in Hammond's experiments, the albumen may pass off by the urine without metamorphosis, just as it does when injected into the veins, as in Bernard's and Ch. Lehmann's experiments. In dogs, on the other hand, there is hardly a limit to the absorption of meat and subsequent elimination; but if a large quantity is given, the exit at last fails to keep pace with the entrance, and the body gains weight from accumulation. Even in men this may be the case, though it is not so marked.

In the second case, when the entrance of nitrogen is very greatly lessened, the body may give off more than it receives. This goes on for some time, and then at last entrance and exit balance. If the entrance of nitrogen is cut off altogether, the exit in very small quantity still goes on. Even in cases of starvation extending over three weeks, urea has been found in the urine. The quantity of nitrogen thus passing off, when there is no entrance, is small. In the following table are given the results of some experiments on three healthy men, to whom I gave as much arrowroot, sugar, and oil of butter as they liked, but no nitrogenous food.

Exit of nitrogen by the urine in three healthy young men on a diet without nitrogen.

		Previous mean daily exit—grains.	Amount on non-nitrogenous diet—grains.			
			1st day.	2nd day.	3rd day.	4th day.
No. 1.	First Expt...	277	143	108	—	—
	Second Expt.	193	155	121	—	—
No. 2.	First Expt...	206	135	109	—	—
	Second Expt.	171	123	124	—	—
No. 3.	First Expt...	306	194	95	48	44
	Second Expt.	169	91	84	67	59

In all probability, judging from the cases of death from starvation, the exit of nitrogen by the urine would have continued at the rate of almost 50 grs. daily until death.

Apart, however, from these two extremes—namely, great excess and great defect in the supply of nitrogen,—the rule holds good that there is the closest relation between the entrance and the discharge. It must, however, be noted that Ranke's experiments seem to show that, for a perfect balance, there must be a certain ratio also of the carbonaceous food.

In studying the causes of the elimination of nitrogen, this important fact of the influence of entrance on exit must be constantly remembered. It gives us the first clue to the solution of the great problem of tissue-change. Of course it vitiates every experimental inquiry undertaken in ignorance or neglect of it. An immense amount of labour has been rendered useless by its discovery, and many experiments will have to be repeated. But it has physiologically a far deeper interest than at first appears. Let us consider the case a little more carefully. Why should the altering ingress of nitrogen thus increase or lessen the egress? The nitrogenous substance is not a mere foreign substance entering the body, and, like a mineral, traversing it and quitting it by the readiest channel. Is it not concerned in all vital actions?—and, being so, how is it that it should thus pass off so immediately, and apparently without producing any alteration in any function or organ?

The first attempt at explanation of this was so plausible that it commanded at one time almost universal adherence. It was, simply, that the supply of nitrogen in the food was habitually too great; that the body could only use part of it; that a portion was got rid of just as so much common salt would be when given in excess; that it was, in fact, mere surplusage; and that while one portion was used, another was oxidised in the blood and discharged without participation in any vital act.

But this doctrine of unprofitable or luxus consumption, as it was called in Germany, finds now few adherents. In the first place, what is surplusage and what is not? Where is the line to be drawn? It is impossible to do so. But draw an arbitrary line as well as can be done, and then feed animals with only that amount of nitrogen supposed to be necessary: an equivalent amount will still pass out, and eventually the animal will die with signs of starvation.

Again, the doctrine of luxus consumption does not account for this fact. Let us suppose the body has been fed with a certain quantity of nitrogen and other food, so that its weight is constant, and reception and discharge are in equilibrium. Then cut off some of the nitrogen. At once the exit lessens to a corresponding extent, and it might be said that too much had been previously given. But this is not so; for supply the nitrogen again. For some short time the exit does not now equal the entrance. Some of the nitrogen is retained in the body evidently to make up for the loss it has sustained.

For example, I fed a man with a constant daily ingress of nitrogen, and found that he passed in four days 1109 grs., which was equivalent to the ingress. He was then kept without nitrogen for two days, and then returned to his

former diet. In the next four days, although he received rather more than 1109 grs., he passed only 801 grs., or, in other words, there was a retention of 308 grs. in four days, evidently to make up the amount of nitrogen in the body to the former standard. In a second experiment of the same kind, in the same man, there was a retention of 319 grs. In another man an exactly similar experiment was made. In four days 828 grs. passed off; nitrogenous food was then cut off for two days; in the following four days, when the supply again equalled the first period, only 685 grs. passed off, so that 143 grains were retained. The experiment was repeated, and 181 grs. were retained.

I repeated the experiment in a third man, and for longer periods. On a regulated diet for twenty days he daily received 300 grs., or a little more, and passed on a mean 305¼ grs. every day. He was then kept for five days on half the quantity of nitrogen, and for the next five days was deprived of it altogether. Then he received again 300 grs. every day. Now in the first four days of this last period, when the full ration of nitrogen was given, instead of passing 306 grs. daily as before, he had the following excretion: On the first day after resumption of the full nitrogenous diet of 300 grs., he passed only 189 grs.; on the second day, 242 grs.; on the third day, 253 grs.; on the fourth day, 261 grs. The retention of nitrogen and the gradual and regular return to the normal excretion comes out very clearly.

These facts must be explained by supposing that when the body is fed with a daily definite amount of nitrogen, and it receives and parts with the same amount, and is thus in equilibrium, the different nitrogenous tissues and fluids are all fed according to that standard. If suddenly deprived of nitrogen for a short time, and then again fully supplied, these tissues and fluids tend to return to the previous condition of nitrogenous composition, which is, as it were, the standard to which the body has been brought by regular feeding. But this making up for a lessened supply seems quite irreconcilable with the idea of surplusage and with the doctrine of luxus consumption. Besides there is something coarse in the explanation that the body is thus always receiving a surplus which it has to get rid of; and, moreover, it is not at all likely, but the reverse, that albumen by simple exposure to oxygen, even in the body, would be thus easily converted into urea. Dismissing, then, this notion of an over-supply being got rid of, it follows that the conversion of albumen into urea is not merely oxidation, but is connected with the vital actions going on in the body. So far it seems perfectly safe ground. Then comes the question, with which of these actions?

Of the various tissues of the body, the muscular structure forms by far the largest, and, so to speak, the most active part. The heart and the involuntary muscles of respiration and digestion are constantly acting, and for many hours every day we exercise, and sometimes largely, our voluntary muscles. Moreover, the muscles have the nearest chemical alliance with the albuminous substances of the food, and are evidently fed by them. It seems at first sight reasonable to conclude that it is to this tissue we must look for an explanation. But it does not appear that this so. When different quantities of nitrogen are supplied, and a corresponding difference of exit occurs, there is no obvious reciprocal action on the part of the muscles. I have fed men with a certain amount of nitrogen, and kept them perfectly still for two days, so that all their voluntary muscles acted very slightly, and their hearts beat feebly; the entering nitrogen was eliminated as usual. I kept them on strong exercise for two days, and scarcely any difference between the rest and exercise period was perceptible. It is impossible, then, that changes in the condition of the muscles can be connected with the event in question. This conclusion is borne out by experiments on exercise. The almost innumerable experiments on exercise have a close bearing on this matter; but I will not occupy your time by a history of this problem.

While at one time it was supposed, chiefly on theoretical grounds, that the supply of nitrogen was directed to the muscles, and that their action furnished the bulk of the discharge, it is now almost universally believed that the action of a muscle causes little, and some observers think no change, in the elimination of nitrogen, either in the shape of urea or creatin. In this country Edward Smith, and in Germany Voit, must be credited with the first perfect experimental proof of this fact. In tetanus, also, the observations of Senator* prove that the most severe spasms caused no increase in the elimination of nitrogen, but, indeed, in one case, rather a lessening of the urea. Many other experiments have been made in corroboration or in disapproval, but the fact that the change is extremely slight remains, I believe, unshaken. I have made a few experiments which agree with the view that muscular movement causes little change in the excreted nitrogen; but I have been unable to accept the absolute statement of Voit, that no change whatever is caused. Some experiments published in the Proceedings of the Royal Society prove, it seems to me, that changes go on in the muscles leading to a slightly increased outflow of nitrogen after exercise. The observations of Ludimar Hermann, showing that some physical changes, leading to loss of consistence, occur in the myosin of the muscles, and the discovery by Heidenhain (which has been confirmed lately by two of his pupils, Nigetiet and Hessner†), that there is an increase in substances soluble in alcohol, and a decrease in those soluble in water, in tetanised frogs' muscles, seems also to indicate the probability of changes in the nitrogenous muscular structures. But the nitrogenous elimination after exercise, if it be admitted, is so moderate as to be quite inadmissible as an explanation of the manner in which an increased inflow of nitrogen is at once indicated by an increased outflow. Moreover, urea is not a constituent of muscle, as, in spite of its solubility, it would almost certainly be if it were produced there in large quantity. Creatin is no doubt a constituent of muscles, but it is in small quantity, and, as Liebig observes, the remarkable properties of creatin indicate that it is not a mere excretion, but plays some important part in the action of the muscles.

As the muscular system fails us as the source of the urea which follows the increased entrance of nitrogen, shall we then look to the action of the nervous tissue, and suppose that when more nitrogen is given greater changes go on in the nervous tissue, leading to more rapid metamorphosis, and eventual elimination of nitrogen? That the action of the nervous tissue may be attended with coincident changes in the nitrogenous substances which compose it is not only likely, but is highly probable. One observer has even ventured to assign a definite amount of urea to mental work. But a consideration of the observations as yet published proves that an increased elimination of nitrogen from mental work, probable as it is, has not yet been proved, and must in any case be small. And it seems quite certain that no action or condition of the nervous system exists which is in any relation to the special point of entry and elimination of nitrogen, which is the question before us. Give a man for ten days 200 grs. of nitrogen, and an equal quantity is eliminated. Increase it to 300, and the elimination follows *pari passu*. But in the two periods the mind and the senses are equally active; there is no perceptible nervous change in any way. We cannot, then, look to altered action in the nervous system to explain our problem. Nor can we turn to the bones, the cartilages, and the aponeuroses, for all these are certainly out of the question.

What, then, remains which can be regarded as the seat of this rapid transmission of albumen into urea? The answer is ready, and seems probable. We have still to consider the immense glandular and cellular structures, which in some places are collected in masses, as in the liver, the spleen, the salivary glands, and pancreas, or the smaller aggregated glands; in another place are spread out in a membranous form, as on the surface of the intestines or the lungs, or are distributed through the body in the form of fat-cells or possibly connective-tissue cells; or are diffused in fluids, as in the blood. Into and from the cells of all these bodies an albuminous fluid is continually passing, issuing from the blood and again returning to it. There is no cell which, more or less actively, is not engaged in thus receiving and parting with the plasma which comes to it in the blood. The extent of the exchange in closed spaces can be partly measured from the similar processes which go on on the covering of free surfaces. We know what great quantities of fluid pass into the gastro-intestinal tract, into the gall-bladder, probably into the joints and serous cavities, and are again absorbed. In this vast cellular circulation we may reasonably look for the rapid and immense conversion of albumen into urea which we see going on in the body, and

* Virchow's Archiv, Band 48, p. 198.
† Zeitschrift für Ges. Phys. 1870.

which we are certain is not produced by the immediate action of the muscles and nerves.

More or less explicitly stated by several physiologists, this doctrine has been formulated by Voit. A distinction must be drawn, he believes, between the albumen which forms part of muscles, of nerves, of membranes, or other structures, and that which is dissolved in the blood and derived fluids. The former is the fixed or organ-albumen; the latter is the circulating or store-albumen. The albumen of the organs is fixed and stable, changes slowly, and the changes form no measure of the function of the organs. The albumen that circulates, or forms the store from which the organs take what they require, is unstable, and is constantly being transformed into urea as it passes through the various cells composing the glands. Moreover, the absorption of oxygen is especially under its influence, and richness in store-albumen implies greater absorption of oxygen.

As to the kind of action which converts albumen into urea, I cannot pretend to explain it. It is perhaps merely another form of words to say that we have apparently an instance of that peculiar action of membranes termed osmotic by Graham. The albumen, entering as a colloid body, diffuses into or out of the cell as the crystalline urea, and is then washed into the torrent of the returning circulation, and is excreted by the kidneys. And in this formation of urea the opinion is more and more gaining ground that it is not merely simple oxidation, but a splitting up of the particle of albumen into urea and a non-nitrogenous body—a carbo-hydrate,—or perhaps into various bodies.

To this conclusion, that in the gland-cells we must find the origin of urea, we seem to be led by a fair negative argument based to a considerable extent on experimental proof. The proofs are—the uninterrupted passage in of albumen and the coincident passage out of urea, and the certainty that no action either of the muscles or nerves, or any immediate oxidation in the serum of the blood, will account for this. We are forced, then, to look to the other structures of the body, and of these the only active structures are the vast series of gland-cells distributed through the bodies. But the proof does not end here. There is some evidence that urea and uric acid, the two great representatives respectively in mammalia and in birds and reptiles of the destruction of albuminates, are found in these cells. This evidence is partly derived from physiology, partly from pathology. To take the latter first. I must apologise here for introducing my own name into this question, which I should not do if it were not necessary to adduce an essential piece of evidence.

Nearly thirty years ago in India I examined the urine in a number of cases of hepatitis and hepatic abscess; and while I found that in some instances there was abundance of urea, in others there was scarcely any, and in some it appeared to be wanting altogether. On looking further into this matter, it seemed to me that the cause of the difference was to be found in the amount of suppuration. When this was excessive, so that the secreting substance of the liver was almost entirely destroyed, the amount of urea was greatly lessened, and "in a degree proportioned to the extent to which the secretion was destroyed by the abscess;"* and, on the contrary, when the liver was not suppurating, but was actively congested and enlarged, with no doubt very rapidly-secreting cells, the amount of urea, as well as of uric acid, seemed to be increased.

The want, however, of accurate quantitive determinations, and of late years the recognition of the necessity of estimating the amount of entering nitrogen, which of course was not attended to thirty years ago, led me to doubt the accuracy of my observations, which, indeed, had not been confirmed by any other observer. But lately I have had another opportunity of more accurately observing this point. A case of hepatic abscess was under the care of my colleague, Dr. Maclean, who kindly allowed me to examine the urine. An immense abscess occupied the whole of the right lobe, leaving only a very narrow margin of liver compressed by a tolerable thick cyst. The left lobe also contained at the time of death (three months and a half after my analysis) many abscesses; but some of these might have formed subsequent to my examination. The liver was punctured with the exhausting syringe several times, and altogether more than 600 oz. of pus were drawn off; and it is certain that a large portion of liver-substance was destroyed. After every operation he rallied wonderfully, and his appetite improved. During six days (three months and a half before his death, and when of course there was more secreting liver-substance than later) the urine was collected carefully and analysed. The daily nitrogen of his food was not entirely determined by analysis, but was determined chiefly by calculation. After making a most liberal allowance for excess of calculation, the daily nitrogen cannot be put lower than 192 grs.; in fact, it must have been considerably more than this, but I have erred on the safe side. In six days he certainly received 1152 grs. of nitrogen. He passed by the urine, as determined by burning with soda-lime during the six days, 792 grs.; leaving 340 grs., or nearly 43 per cent., to be accounted for. He had no diarrhœa, and allowing him the healthy bowel excretion of 25 grs. daily, which would really be only given by a much larger diet, in six days only 130 grs. would thus pass out; leaving still 210 grs. to be accounted for. He was also feverish (temperature 100° at night), which ought to have increased the urea. Considering how completely the exit covers the entrance in health, the retention of 210 grs. of nitrogen in six days shows either that the growing pus-cells appropriated nitrogen, or that the interruption to the proper action of the liver-cells hindered the formation of urea. The latter seems more probable, because subsequently, after several operations, when the liver-cells and vessels would be much less compressed, and therefore for the time would be able to act, the urea increased in quantity considerably, though after each operation there was no doubt a still more rapid growth of pus-cells.

Let us see what evidence other liver affections can give. In very great cancer of the liver, when a great part of the liver is destroyed, the amount of urea is generally very small; but in most cases the diet is so much lessened that no inference can be yet drawn from the cases already recorded. In the case recorded by Alfred Vogel only 122 grs. of urea (equal to 57 grs. of nitrogen) were excreted daily, which is just the starvation amount; but then there was profuse diarrhœa; and this case, though it has been referred to by Meissner, seems to me of little moment. There is, however, another disease which ordinarily involves the whole of the liver in destruction—namely, the acute yellow atrophy of Rokitansky. In this singular affection, when sometimes every liver-cell is smitten with a rapid atrophy or dissolution, the urea disappears from the urine, as has been shown by Frerichs and Murchison; albuminoid bodies, such as leucine and tyrosine, take its place, and are also found largely in the liver, as if they marked the arrest or modification of the transformation of albumen.

Reasoning from the facts connected with this disease, Meissner, whose great judgment and knowledge no one will doubt, asserted three years ago—"From all these observations it clearly proceeds that withering and destruction of the liver-tissue is connected with an important diminution in the formation of urea." †

So much for the pathological evidence. The physiological evidence was commenced by Heynsius‡ and Stokvis several years ago, and the experiments of Meissner and Bullard, Perls, and others have since placed on a certain experimental basis the fact that urea can be largely found in the liver. And Meissner's discovery that, while urea is found largely in the hepatic tissue of mammalia, uric acid takes its place in the liver of birds, may be of importance in hereafter determining the exact mode of origin of these two bodies, one of which is the great carrier of nitrogen from the bodies of mammalia, and the other serves the same purpose for birds and many reptiles. Lately, again, E. Cyon‡ has proved that there is a decided production of urea in the liver. He introduced tubes into the vena portæ and hepatic veins of dogs, and was able to analyse the blood (portions of the same blood, be it remarked) before and after passing through the liver. In the first experiment the blood before passage contained, in 100 c. c., ·09 grammes of urea; after passing, it contained ·14 grammes. In a second experiment the blood which had not passed through contained, in 100 c. c., ·08 grammes of urea; after passing through once, it contained ·14; after passing through four times, ·176 grammes. And Cyon states he satisfied him-

* On the Dysentery and Hepatitis of India. By E. A. Parkes. 1846. p. viii.; and pp. 180, 181, and 252.

† Henle's Zeitsch. für Rat. Med., Band xxxi., p. 248.

‡ Hollandische Archiv, Band i., page 303, and Band ii., p. 263.

‡ Centralblatt für die Med. Wissenschaft, August, 1870, p. 580.

self this was not mere washing out, but actual formation. Popp* has also lately stated that bile normally contains urea; but at present this has not been confirmed.

The origin of urea in the liver seems thus proved by pathological and physiological facts; but whether it comes from the albumen in the liquor sanguinis or from the red corpuscles, as suggested by Meissner, is uncertain. The great increase after food seems to point to a direct influence of the albumen of the serum. It does not follow, however, that the liver of mammalia may not form uric acid as well as urea. Uric acid has been found in the livers of oxen by Cloetta; in the livers of men by Scherer; of pigs, dogs, horses, and men by Stokvis and by Meissner; but always in much smaller quantity than in the liver of birds. Pathological facts, showing the great increase of uric acid, as well as of dark colouring matter closely connected to uric acid, in acute congestive hepatic affections, seem also to indicate that an excess of uric acid may thus arise. Nor does it follow that, though formed largely in the liver, urea is found solely there. It is not impossible that, as believed by H. Ludwig and Fuhrer some years ago, the blood corpuscles may form it. So also pathological facts are in favour of the enlarged spleen in leucocythæmia furnishing a large amount of uric acid and, in some analyses, of urea. Whether the pancreas, salivary glands, and other gland-cells add their contingent of urea or uric acid, is at present doubtful. The hippuric acid is, no doubt, closely connected with the formation of bile, and it is probable the nitrogenous colouring matters of the urine originate in part in the destruction of blood-cells in the liver. Where the kryptophanic acid is formed is at present not known.

It seems, then, that the inference drawn from the comparison of the entering and outflowing nitrogen, and from the facts of elimination during exercise—viz., that it is in the gland-cells that the albumen is transformed into urea,—has strong direct evidence in its favour; and we may, I think, fairly conclude that the liver stands in the first rank as an agent of this, and that the splenic and blood-cells, and perhaps other glandular bodies, act in the same way, though naturally in a less marked degree. It may also be inferred from the absence of urea in the muscles that when the albuminous substance of the muscle needs repair, this is not done by the transformation into urea *in situ*, but that the physically altered albumen passes into the circulation, is inapt for further appropriation by muscles and nerves, and becomes the food or prey, so to speak, of the gland-cells in the liver and other parts.

These facts I have now briefly summed up, and the inferences they justify cannot remain barren for practical medicine. Did they do so, we should take little interest in them, but if they are stated correctly they must be of the highest moment. The exact comparison of the entering and outgoing nitrogen must be of importance in connexion with the cellular circulation in the liver and in other glands, and we may expect that a new path of investigation will now be opened. And, as regards the regulation of the entrance of nitrogen, and the employment of diet in disease, it seems likely that we shall hereafter be able to tread on surer ground than heretofore.

In bringing forward some suggestions as to how these physiological facts may be expected to become practically useful in dietetic treatment, permit me to make a few prefatory remarks.

The albuminoid substances of the food are those which are chiefly concerned in growth and in repair; while the non-nitrogenous substances are especially, though not solely, concerned in the evolving of energy. How greatly growth is influenced by the supply of nitrogen, both for plants and animals, we have daily the most striking instances in agriculture, and in the breeding of animals for work or consumption. Work can be got out of fully-formed organs by the participation of the non-nitrogenous substances, the fats, and the carbo-hydrates; but no one can imagine that these by themselves can cause growth and development. As therefore the growth of plants and animals is so influenced by nitrogenous supply, can we not turn this power to account, and starve or feed as we may desire certain organs or structures in the human body? Can we not consider the gland-cells as so many independent growths which we can either nourish or not, and thus influence, not merely their secretions, but their growth?

* Liebig's Annalen, Band cl., p. 85.

When we consider the way in which the repair of the different structures of the body is carried on we may see, it occurs to me, that there are three broad modes of action. Take first the voluntary muscles and the nerves. No one can doubt that their nutrition, growth, and power of repair are regulated (no doubt with certain nervous control) by the will,—use develops a voluntary muscle; disuse wastes it. With exercise it becomes bulkier and more powerful, therefore more nitrogenous; with rest smaller, and less rich in nitrogen. This elementary fact, which we all acknowledge, is pregnant with meaning. While all will admit that in some way the growth and repair of voluntary muscles are correlated with exercise, it is not easy to say how this is brought about. The usual notion is that a muscle is used up in work, and that in the rest after exercise the wasted muscle not only repairs the structure it had lost, but even increases in bulk; but this is hardly consistent with the fact that it loses little during exercise, and that, when longer continued, rest has the effect contrary to that assigned to it, and causes waste. From considering the phenomena of elimination of nitrogen in rest and exercise it seemed to me that it is during the exercise itself, perhaps in the constantly recurring relaxations which rapidly alternate with the contractions of each fibre, that the muscle appropriates albuminous substances and increases in bulk; while, when complete rest succeeds, it commences to gradually waste, and, if kept at rest, would at length completely dwindle away. But many more experiments are necessary before this view can be affirmed; and, whether it be true or not, the grand fact remains, that exercise, within certain limits, brings about in some way an accession of nitrogenous constituents to muscle.

So with the volitional nerves: the more exercise, so much the more the power of the function. That is the best-nourished nerve which is most able to transmit the nervous currents. We see this even with the mind, and can notice how even genius, poetry, and imagination fall under the influence of the so-called prosaic laws of nutrition. It is, then, the will acting through the nerves which plays so great a part over the organs of volition, and thus by use regulates the appropriation of their food. But there are other parts removed from the influence of the will, whose nutrition is also directly dependent on the nerves. When we see how the action of the heart is regulated—how the involuntary muscles of respiration, the intestinal muscular fibres, and some, at any rate, of the glands, like the salivary glands, are governed in function by the nervous supply—are excited by this nerve or restrained by that,—we cannot doubt that here also the nervous power directly regulates the nutrition of these parts.

But there is a third set of nutritive actions on the body, which are certainly much less influenced by the nerves. The nerves may modify the flow of blood and the supply of food, and also in some more obscure way affect them; but the great cellular elements are also fitted with an independent power of nourishing themselves. The volitional and the non-volitional nervous currents act on them indirectly. All they need is that nourishment should be brought to and should bathe them, and then they take up what they can, and grow and thrive in proportion to the richness and suitability of their food. The old experiments of Hunter on transplantation of parts abundantly prove this. Lately, a new operation, a triumph of surgical science, takes a few living cells from the skin, separates them from nerves and blood currents, and places them on the granulations of a growing ulcer. At once the cells begin to absorb and grow; they take the food like a plant absorbs it with its roots, and the wonderful life-power which they bear in them enables them to appropriate and to form it into their own image. The great author of the cellular theory could hardly desire a better illustration of his grand doctrine. Doubtless the liver- and spleen-cells, the gland-cells, and the blood-cells are all nourished in the same way: the food is brought to them, and they flourish in proportion to its nutritiousness and its accessibility.

Lately, for an experiment, I cut off all nitrogen from the food, and fed a man for five days on fat and starch only. The voluntary muscles when kept in action retained their full power—whatever nitrogen they required they still got; and on the fourth day the man did an extremely hard day's work, which was equal to 720 tons lifted one foot. The voluntary muscles, excited by the will, could therefore pro-

duce as much force as ever, although starved of nitrogen; but it was otherwise with the involuntary muscles. The heart began to suffer in nutrition, and its power was reduced, as shown by the sphygmograph, nearly one-half.

I draw the conclusion from this experiment, that if the nitrogen is cut off, and the voluntary muscles are kept in their usual action, they do not fail, but that the power of the heart may be thus reduced if it be desired to do so. In other words, the food the heart requires is attracted from it by more potent actions. Here, then, we possess a power of affecting the action of the heart, if it be needed.

Then may it not be that the involuntary muscles, whose nutrition is regulated by their nerves, may in like manner, as long as the nerves maintain their structure, have a priority, so to speak, in the power of obtaining nutriment, over the various cellular elements whose growth is independent of the nerves? Although I do not see how to bring this to experimental proof, it seems probable that if a nerve causes an involuntary muscle to contract, that muscle will take the nitrogen it requires, and will be nourished when a cell which merely takes what comes to it would not be.

Would it not be possible, therefore, to starve an overgrowing part? That the heart may be thus starved I cannot from the evidence doubt. But could not the rapidly growing cells of an irritated liver, or the proliferating cells of a mucous membrane, be thus starved? But can we not go beyond this? In overfeeding we have the simple explanation of many enlarged livers, and in starvation from nitrogen possess the readiest and simplest cure. Is it possible that the cells of a carcinomatous tumour could be thus stunted in their growth? All these formations must follow the usual law of nutrition; if fed they will grow; if starved they will die. It seems a most wonderful thing to us that from some external irritation, it may be a scratch, a blow, or a fall, some cells in a structure of the body, the breast, the uterus, or the liver, will suddenly begin to exhibit the marvellous power of growth, and we stand aghast at the rapidity with which cell forms cell in the growing nitrogenous network which we call cancer. At present we are hopeless before a cancer. Where we can do so we extirpate it, or we attempt, by local corrosives, acetic acid, or other substances, to destroy the nutritive power of its cells. At present we do not know how to remove again from it that marvellous power of growth which a common irritation, it may be, had called forth. But might we not try to starve it? Consider what it is. It is a congeries of nitrogenous cells, gifted with immense proliferative power, absorbing the nitrogen which is intended to nourish other parts, and needing that supply of nitrogen for their growth. Who has not seen a man fed with the most nourishing food, and wasting daily in every part of the body but one. The nitrogen was stopped, it may be, in the liver, when a cancerous mass, weighing some ten or even eighteen or twenty pounds, may have formed in a few months. What was the good of all that feeding? What benefit had the rest of the body? Was wasting and weakness stopped for a day? It is much to be feared that the care and affection which tempted the patient with every delicacy, merely gave so much more power to the enemy which was killing him. So, again, in cancer of the cardiac orifice of the stomach, on which you, Mr. President, have written so ably; with what rapidity it grows, and how, when all other parts waste, that alone is nourished.

It is a significant circumstance, which all have noticed, that the majority of rapidly-growing malignant growths occur in the latter period of life, when the organs, voluntary and otherwise, begin to decline in activity, and when, therefore, if as much food is taken, the amount of disposable nutritive material becomes too great. If any irritation then starts a cell on its course of abnormal growth, it finds food which the organs of the body can no longer use.

A few years ago many diseases were treated by total starvation. Our present feeling is strongly against such a plan. We now admire and use, and often beneficially use, what are called sustaining and restorative measures. But are these really based in every case upon scientific knowledge? May we not in some cases both sustain and starve? That is to say, can we not feed the body with fats and starches, from which heat and motion may be formed, and yet starve it for a time by holding back the chief material of growth—the nitrogen without which growth is impossible?

Certainly it seems to me that we have in this a therapeutical power which must, in certain cases, do us great service. But how is it to be used? There is no danger in health in lessening, or even entirely withholding, the supply of nitrogen for two, three, or even five days, according to the strength, provided an ample supply of fats and starches is given. If the voluntary muscles are kept in action, they and the involuntary muscles will use up the store, and will leave less for the various abnormal cell elements. In disease some caution would be necessary.

The action of the heart, and the condition of the circulation, will give sure guidance for the supply of nitrogen from time to time, and by alternate exercise and rest of the voluntary muscles we can direct more or less nutriment to the heart.

Complete deprivation of nitrogen for as long a time as the heart will bear it without becoming too feeble; the re-supply of nitrogen to an extent sufficient to keep up the circulation; the exercise of the voluntary muscles and the nervous system in as great a degree as may be prudent with the condition of the circulation,—such seem the lessons for the dietetic treatment of new growths inculcated by our present knowledge of the uses of nitrogen in the body, and the manner in which it is used by the different organs and structures.

But it may be that if we succeed in checking growth, as, I believe, we should do, we should merely retard, but not overcome, the evil. When nitrogen was again supplied, as it must be, the cancer cells would perhaps again exert their marvellous force, and commence anew to grow, and to rob the less powerful tissues of their food. It may be so; there is even reason to fear it will be so; but experience only can show if we have thus forged a weapon which may aid us in this conflict with disease; or whether we have been simply imagining a vain thing, and blindly trying to build on the shifting sand.

The effect of deprivation of nitrogen in lessening the urea is quite certain; but what effect has it upon uric acid?—and how far may it be useful as a treatment of those gouty affections which appear to be characterised by excess of formation? At present I can only say that complete deprivation of nitrogen does not take away all uric acid; it still exists in the urine, though of course, like the urea, in greatly lessened absolute quantity. I draw the conclusion from this, that the view is correct which looks on the uric acid, not as an anterior stage of urea, but as having an independent origin in some cells which are specially endowed with the power to form it. Whether these cells could be starved by the deprivation of nitrogen, is a point which could soon be settled by experiments in confirmed gouty subjects.

In tracing in this way the albumen of the food partly to the muscles and nerves which take what they require of it, and in their composition accurately reflect that of the albumen which nourishes them—partly to the gland-cells which exert on it their peculiar action, splitting it into other products, partly of secretion, partly of excretion,—we are, though dimly, expressing the sequence of events. But of any explanation of these transformations we are quite ignorant; as ignorant as we are of the force which absorbs nutriment into the germinal cell, and eventually differentiates it into tissues and organs. But, happily, ignorance of these mysteries does not affect our power for good; for we can modify, though we cannot interpret, the sequence of events. Slight as our knowledge still is of the hidden processes of the body, enough is known to assure us that this part of physiology must be of infinite importance for practical medicine, and that treatment by diet will acquire in time to come a wider and a surer basis.

To sum up, then, in a few words, the reading of the facts as we see them at present. The albumen in the body is broadly divided into the fixed and the circulating. All the albuminous parts of muscles, nerves, gland-cells, membranes, &c., belong to the former class; the serum of the blood, and the fluids which come from it, to the latter. Urea is derived principally, probably solely, from the circulating albumen, and the place of its formation is not in the muscles and nerves, but in the gland-cells, and especially in the liver. The food of the gland-cells is twofold: first, circulating albumen which is immediately derived from the food; and, secondly, circulating albumen which has once been fixed, but which has become unfit for use, and has

been detached from the organ of which it formed part. As to the method in which the gland-cells form urea, we know as little as we do of the mode of growth of cells, to which the process is no doubt allied. We know the sequence of the phenomena, and must be content.

If this reading of the facts is correct, we have to see how it will apply to the phenomena of disease, and this will be the object of my third lecture.

Clinical Lecture ON CONTAGION.

Delivered at St. George's Hospital, Feb. 21st, 1871.

BY HENRY LEE,
SURGEON TO THE HOSPITAL.

GENTLEMEN,—Every animal poison capable of being communicated from man to man appears to be allied to the secretion of some particular part, to produce its specific effect when reapplied to that part in another individual, and to be there associated with a definite and particular morbid process.

Diphtheria is associated with a peculiar secretion from the throat; cholera affects particularly the mucous membrane of the intestines; scarlatina, the vaccine poison, and small-pox are developed on the skin. Each of these diseases produces its own specific action, by which it may be recognised when uncomplicated by other morbid actions. The vaccine poison is known by a very definite adhesive form of inflammation. Lymph unmixed with pus is effused around the inoculated part and poured out from the surface of the skin, so as to form the well-known vaccine vesicle. Any secondary eruptions which follow such an inoculation are of the same kind, vesicular or papular. Should any circumstances interfere with the natural actions of the part, then erysipelatous, suppurative, or other forms of inflammation may be produced; but these must be looked upon as accidental, and as forming no part of the natural disease. So, also, any secondary results which under such circumstances may arise may be present in great variety, and must in like manner be distinguished from the essential characters of the affection. The accidental complications to which I allude may be either local or constitutional. Decomposed lymph used for vaccination might furnish a good example of the first; the coexistence of other diseases is a fruitful source of the second. If in the case, a drawing of which I now show you, the inoculation of the vaccine matter produced suppuration in the part, as it evidently did, we must suppose that it depended either upon some peculiarity in the matter inserted or in some previous derangement of the patient's constitution. If the matter were bad, any unusual secondary results could not fairly be attributed to vaccination; or if, again, the suppuration at the inoculated point depended upon some pre-existing state of the constitution, then it is likely enough that any secondary actions on the skin would show a tendency to suppurate also. The circumstance which modifies vaccine inoculation more than any other is undoubtedly the condition of the system left by previous vaccination. By repeated inoculation a vesicle may no doubt often be made to appear, but it seldom has the characters of that which was first produced, and it is comparatively seldom followed by any secondary consequences.

In contrast with the kind of action which produces vaccine lymph, is the morbid action which causes the small-pox pustule. The first is an adhesive form of inflammation; the second a suppurative form. The point inoculated with the matter of small-pox will suppurate, and all the points on the skin subsequently affected will suppurate also. I adduce these well-known morbid actions in illustration of others which, on account of their complications, are not so easily traced. But before we pass on to these, I will here note that both the adhesive and suppurative local actions may, as in the instances given, be the means of communicating constitutional disease. In the first the newly-formed matter remains part of the living being, and in the process of nutrition is again in part taken up into the system; whereas in the second the newly-formed cells, together with the fluid in which they are contained, cease to have any connexion with the body from which they were produced. Associated with this fact, although not depending upon it, I mentioned in my last lecture certain suppurative actions which, when uncomplicated, did not produce any subsequent or constitutional affections; among these were gonorrhœa, and the local suppurating syphilitic sore. I showed you a drawing in which a series of inoculations had been produced from such a sore, and where the patient was seen two years afterwards without having had any consequent disease. I reminded you that this disease is necessarily attended with some loss of substance; that it commences as a pustule; and that it suppurates during the whole of its existence. I now go on to consider some points with regard to the morbid action by which constitutional syphilis is communicated, as far as we can observe it in its origin, and uncomplicated by other affections. I say as far as we can observe it; for it would appear that in certain rare cases the poison may be absorbed through the skin and affect the constitution without leaving any trace of its passage. These cases are very few indeed, and depend upon what Hunter called "physiological absorption." We may presently, perhaps, obtain some clue to the reason why the usual action which denotes the entrance of the poison into a patient's system is deficient in these cases.

In all the cases in which constitutional syphilis has been produced artificially, and where care has been taken that no accidental circumstances should interfere with the natural progress of the disease, an interval has followed the inoculation during which nothing but the remains of an ordinary puncture were visible; then a pimple, an abrasion, a portion of thickened cuticle, or a tubercle has presented itself. This is generally followed by some degree of ulceration. The ulcer, which is generally superficial, heals, leaving the thickened base on which it was situated for some weeks afterwards. The commencement, the termination, and essential characters of this action are those of the adhesive form of inflammation. The newly formed matter becomes reabsorbed, in a great measure, into the system, and ultimately the part is left in its original condition. In this disease there is no loss of substance, no ulceration or absorption of natural tissue; no mark is left of the original seat of the disease. This affection is, however, very certainly followed by some form of secondary disease. In a healthy constitution, and where the disease has not been influenced by accidental circumstances, some form of papular or scaly eruption will usually be developed. But if from any depressing influences, or from the coexistence of other disease, the primary affection has ulcerated to any extent or suppurated for any length of time, then the secondary affections will have a tendency to do the same.

Now, the forms of disease to which in this and in the previous lecture I have called your attention—viz., that which commences as a pustule and terminates when the suppuration ceases, and that which commences with some form of adhesive inflammation and infects the whole system—are certainly at least as distinct as the cow-pox and the small-pox. If they had been studied in their origin the distinction between the two must, one would have thought, have always been apparent. But some experiments have lately been performed which by some have been conceived to render the distinction between the two classes of cases to which I have alluded less clearly marked. These experiments, I think, if closely looked into, will be found to apply to some effects which may be produced in the later stages of the true syphilitic disease, and not in any way to militate against the distinction in its origin between that and the local form of syphilis.

The experiments to which I refer have all been performed on patients whose systems were already affected with syphilis, and therefore those who have performed the experiments have been at the same disadvantage as if a surgeon attempted to investigate the nature of cow-pox by inoculating those who had already had the disease. Even such experiments have their value, but we must not confound the results with those obtained when the disease first develops itself. It is said that the secretion from the

vagina of a patient who has no abrasion, if inoculated upon another patient, will produce a sore. This is a very interesting fact, but surely it is only a different form of the experiment which Hunter performed upon himself. Hunter inoculated the matter of gonorrhœa upon himself, and produced an indurated sore. Now, as it has been demonstrated over and over again that the matter of a simple gonorrhœa is not inoculable, and as many facts go to prove that the secretions from the mucous membranes of syphilitic patients are inoculable, we cannot but conclude that Hunter took his matter from a syphilitic subject, and inoculated besides the matter of the proper gonorrhœal secretion a something from a mucous membrane affected with specific syphilitic inflammation. But it will be said it is the soft sore which has been produced in the experiments alluded to. Now, to explain this, two circumstances must be borne in mind: First, in certain states of constitution in syphilitic subjects, a pustule and subsequent sore is produced with great facility. Here is the drawing of a well-developed pustule in a syphilitic subject, produced by the inoculation of some pus from a case of excision of the knee-joint in a child. The second point to which I advert, and which has a more direct bearing upon the experiments in question, is that inoculations may no doubt be performed occasionally on syphilitic patients which will not present the characters of either of the forms of disease which I have described. I have inoculated and succeeded in inoculating syphilitic patients from the secretions of indurated sores, but the ulcers produced have not presented the sharp ulcerated border of the local suppurating sore, nor have they been accompanied by the adhesive form of inflammation of true syphilis. The way in which these sores occur I believe to be as follows:—As, after vaccination, the effects may so far pass away as that a modified result may be produced by revaccination, so the effect of constitutional syphilis may so far wear itself out that a modified result may again be produced. A sore may, under such circumstances, be produced, but it wants more or less the specific characters of that which first appears in true syphilis. These modified inoculations are seldom accompanied by any induration of the corresponding inguinal glands—a result which is very seldom absent after syphilitic inoculation performed in a virgin constitution. Again, as in revaccination, when a modified result is produced, the amount of surrounding thickening may be very slight, so in syphilitic inoculation, after the general system has been once affected, the amount of induration which normally would appear around the inoculated spot may be very slight, or may be altogether absent. Such inoculations, however, are different from those produced by the secretion of the local suppurating sore. They want the sharp, well-defined edge of the local affection, and which I have pointed out to you as so well marked in a patient in the Harris ward. It will often happen, of course, that the secretions from different kinds of syphilitic ulcers become mixed together, and then at first sight it is extremely difficult to determine their exact character. Thus a modified true syphilitic inoculation may coexist with the local form of syphilitic inoculation. The fresh matter deposited by the first morbid action may be removed by the second; and these two may at a given time so nearly balance each other that there may be no great amount of thickening and no appreciable loss of substance. This may happen with regard to syphilitic inoculation even when it occurs for the first time. If, after a period of incubation, the adhesive action is produced characteristic of constitutional disease, some pus from a local syphilitic sore be applied on the same spot, the ulcerative action produced by the latter may then in a great measure remove the newly formed material which is the natural result of the former; and that is what probably has actually occurred in the case to which I have drawn your attention. The original sore does not present any great amount of surrounding hardness, nor does it present the defined sharp edge of the local suppurating sore. Inoculation here has helped our diagnosis. Some matter taken from the surface of the sore has produced a small but very characteristic ulcer, with a detached sharp margin. Now supposing this to have been originally an indurated sore, upon which another secretion was inoculated, it would be the latter only which would be communicated by inoculation, because after the induration is once established the former action would be no longer inoculable. We have thus, as it were, the means of separating and distinguishing the two kinds of action which, in consequence of a twofold inoculation, may appear accidentally upon the same spot.

The general conclusion to which I have arrived with regard to the apparent inoculation of syphilitic patients from the secretion of true syphilitic sores, or from the secretions from syphilitic patients, is, that such inoculations when they succeed depend upon one of the three following causes:—

1. A peculiar susceptibility in the recipient, in consequence of which the inoculation of even ordinary pus will produce a pustule, as in the case I have mentioned of the woman who was inoculated with pus from the knee-joint of a child.

2. The admixture of the secretion from a local suppurating sore, as in the case we have seen together in the Harris ward.

3. The modified inoculation of true syphilis after the effects of the first disease have in some measure passed away.

These three causes may, of course, be present together, and in different degrees, in any given case.

The following table furnishes an outline of the essential character of the primary and secondary affections which I have brought under your notice:—

Character of Infection.	Character of Inflammation.	Product of Inflammation.	Nature of Secondary Eruption.
Vaccinia	Adhesive*	Lymph	Vesicular or Papular*
Variola	Suppurative	Pus	Pustular
Syphilis (infecting)	Adhesive*	Lymph / Débris	Papular* Scaly

* A depressing influence or a local irritation may cause degeneration of the lymph into pus, both in the primary and secondary actions, in all the forms of adhesive inflammation.

CHLORAL HYDRATE: ITS INCONVENIENCES AND DANGERS.

BY J. CRICHTON BROWNE, M.D., F.R.S.E.,
MEDICAL DIRECTOR, WEST RIDING ASYLUM.

(*Concluded from page* 441.)

BUT the pernicious effects which chloral may, under certain conditions, exert, do not seem to be limited to vaso-motor paralysis or a transient skin neurosis. Two cases which have occurred here seem to demonstrate that they may also involve the constitution of the blood and the nutrition of the tissues, and may thus imperil life. In these two cases, chloral, administered in the presence of organic disease of the brain, induced what can only be designated acute purpura—a condition in which, with marked constitutional disturbance, there was alteration in the capillaries of the cutaneous and mucous surfaces, with subcuticular hæmorrhage and ecchymoses. Before describing these cases, I may mention that to Mr. Aldridge, one of the assistant medical officers of this asylum, who will probably hereafter publish more detailed accounts of them than are requisite for my present purpose, belongs the credit of having detected the earliest appearance of the rash, and of having suggested its dependence upon the chloral treatment.

M. A——, female, aged sixty-nine, who had been an inmate of this asylum for many years, and who was subject to periodical attacks of mania, occurring every six months, and ushered in by convulsions and coma, entered upon one of her wonted paroxysms on the 1st of March, 1870, and was ordered twenty grains of chloral hydrate three times a day. This produced sleep and cutaneous anæsthesia, and, on the 4th of March, a very unexpected result in the form of a bright-red blush, erythematous in aspect but permanent under pressure, over the chest and shoulders. This blush, on March 8th, had pervaded the whole of the trunk and limbs, and had become mottled with livid patches and deep-red spots. The lips and buccal mucous membrane had contemporaneously become red and raw-looking, the

gums spongy, and the tongue blistered and ulcerated in several parts. The breath was fetid, the pulse 120, feeble and compressible, and the general condition that of great debility, with delirious excitement. On March 9th no material change had taken place, except that the ulcerations in the mouth had become more extensive and distressing; but on the 11th the petechial eruption showed signs of vanishing over the thorax and abdomen, where it had never been so severe as on the arms and legs, and where intervals of yellowish and white skin were now visible. The arms were of a red colour, speckled with shreds of white dead epidermis partially separated from the subjacent cutis, and the lips were covered with sordes and dried blood. On March 15th a sort of general desquamation had set in, the cutis being raised in thick round patches, like blisters from which the serum had been absorbed, the skin beneath being of a dull-purple colour, and in some places yellow. After this a large bedsore formed over the sacrum, and some superficial cracks and fissures presented themselves in the neighbourhood of the joints. Convalescence was, however, steadily maintained, and the patient was soon restored to her usual health. During the progress of this case, from my narrative of which many interesting particulars have been necessarily omitted, I had an opportunity of showing it to my friend Mr. Pridgin Teale, who, without any hint from me, at once pronounced it an example of purpura.

The second case to which I have referred was that of L. T——, a female aged forty-six, labouring under heart-disease, left hemiplegia, and dementia with excitement; who was ordered, as a calmative, on February 24th, 1870, fifteen grains of chloral thrice daily, and who seemed to derive benefit from the prescription until March 15th, when numerous reddish-purple blotches were observed round the left elbow, which, on the following day, had enlarged and united with others of a similar kind which had come out on the shoulders and forearm. On March 17th several livid marks had broken out on the face, while the left arm had become swollen and indurated, and showed upon its red surface a mass of minute points or stigmata of a much deeper red, and not disappearing under pressure. On the next day dull-purple spots and discolorations—some small, round, and circumscribed, others large and irregular in shape—were seen over the legs, abdomen, and back; being restricted, in the latter situation, to a band 2 in. in breadth along each side of the vertebral column. Along with these petechiæ there was great prostration of strength, a tendency to somnolence, weakness and irritability of the pulse, a raw state of the lips, which were entirely denuded of epithelium, and a fissured and thickly-coated tongue. On the 19th of March the spots and discolorations had spread in every direction, and had lost their vividness of hue, having assumed a deep purple tinge. Symptoms of pulmonary congestion also appeared. Strength gradually ebbed; and, after several slight attacks of syncope, death took place on the 22nd of March.

At the autopsy, thirty-one hours after death, the body was found covered with livid vibices and ecchymoses of various shapes and sizes, largest upon the limbs, smallest upon the abdomen. The ankles and feet were of a diffused purple colour, and there was much sugillation of dependent parts. Rigor mortis was present. The outer layer of pericardium was adherent to the heart, which weighed 17 oz., had thin walls, dilated cavities filled with decolorised clots, and valves incompetent and enormously thickened and puckered. There was a sort of cartilaginous deposit on the outside of the right auricle. The right lung was congested and œdematous; the liver was fatty; the capsules of the kidneys were thickened and adherent, with wasting of the cortical substance. In the head a large arachnoid cyst was found coextensive with the right hemisphere, which was flattened beneath it. It presented a reddish-green appearance, and containing several ounces of a bilio-sanguineous looking fluid. The whole brain weighed 40 oz.; the right half weighed 18¼ oz., the left half 21¼ oz. There were the rusty-brown traces of an old clot in the right corpus striatum.

No question can, I conceive, arise that in the cases just described the purpuric affection was due to the use of chloral. The symptoms which they presented were of a unique kind, and almost unparalleled in asylum practice at the present day. Purpura senilis is occasionally encountered in aged insane women, affecting chiefly the dorsal aspects of the hands and arms; but purpura of the type exhibited in the above cases is, as far as I know, never met with. The *modus operandi* of chloral, in inducing this type of purpura, can only be conjectured. It may have been that a blood change was the first step in leading to the lesions observed. It is not improbable, however, that some alteration or withdrawal of nervous influence, interfering with the elasticity and calibre of the vessels, may also have been concerned. Whatever the action of chloral on the blood may be, it seems to be scarcely of a protective or salutary kind, as the two worst instances of typhoid fever in this asylum during last year occurred in women who had been taking chloral for some weeks before they were struck down by that malady.

It remains to call attention to still more grave and disastrous consequences of which chloral may be guilty—those connected with its influence upon cardiac innervation. Cases already made public prove incontestably that it has the power of weakening the action of the heart, and even of arresting it altogether. My experience of its use has included several cases in which syncope, or intense pallor, with failure of the pulse and vomiting, have followed single or repeated doses; and in the following cases it seems highly probable that chloral was directly responsible for the fatal termination.

B. B——, aged forty-six, who had been an inmate of this asylum for four years, suffering from melancholia, varied by outbursts of impulsive violence, complained much, in February, 1870, of complete insomnia, which embittered his life, and was telling upon his general health. After the trial of several drugs, chloral was found to answer best in securing sleep, and was accordingly ordered for him; one dose of thirty grains to be taken every night. From February 24th, when the prescription was written, up till December 24th, he continued to take the night draught, with only very brief and occasional intermissions. He professed to feel greatly relieved by it, and to obtain no sleep when it was omitted, this latter statement being borne out by the reports of the night attendants. He improved in mental condition under its use, becoming more tranquil, cheerful, and self-possessed. He displayed, however, in a marked degree those phenomena of vaso-motor paralysis which I have above described. Five minutes after the chloral draught his face "glowed out" of a deep-red colour, which shortly mantled over his neck, brow, and ears. At the same time he grew a little unsteady in walking, spluttered when speaking, and looked as if partially intoxicated. Habituation in the use of the drug did not diminish these effects, but neither did it seem to increase them. During November and December he suffered at times from sudden pangs of fear or agony, in which he clenched his hands, and cried out as if in pain and terror, being unable, on his recovery, to give any explanation of the attack. On Dec. 22nd he complained of shivering and purging, and was carefully examined by one of the medical officers without the discovery of any disorder. The next day he said he felt much better. On the evening of the 24th he had his tea at 5.30 P.M., and his dose of chloral earlier than usual, at 6.45. At 7.10 an attendant noticed that he was reeling about the ward, looking flushed, stupid, and confused, as if quite drunk. He lifted a chair, attempted to carry it down the dormitory in which he slept, fell against a bed, became deadly pale, gave a few spasmodic gasps, and died. Medical assistance was at hand; artificial respiration was established within three minutes, and all possible restoratives employed, but without the slightest effect. The body was pale, the muscles flaccid, the pupils widely dilated, and a seminal emission had taken place at the moment of death. The state of the medicine bottle showed that rather less than the proper dose of chloral had been administered.

A post-mortem examination was performed forty-three hours after death. The body was found well nourished. Rigor mortis was present, with a large amount of hypostatic congestion, and mapping out of the superficial veins over the whole body in dull-purple lines. The pericardium contained no fluid, but on its visceral layer were several large white fibrous-looking patches. The heart weighed 15 oz.; its walls were thin on the right side, but thicker than usual on the left; its valves were competent; its cavities of large size, dilated, and filled with dark fluid blood. The lungs were both engorged with dark blood. The liver weighed 66 oz., and was fatty; the spleen 10 oz., being considerably

congested. The kidneys weighed 8 oz. each, and were unusually bulky; their capsules were free and their cortical substance was pale, but their pyramids were congested and almost of a black colour. The stomach contained half a pint of dark fluid and some portions of partially digested food; its mucous lining was intensely congested. The skull was thickened in front, and adherent to the dura mater. The sinuses were empty, and the arachnoid was thickened and of a milky appearance. The whole brain weighed 60 oz., and was generally anæmic. The ventricles were fully occupied by clear fluid.

In the case of B. B——, it seems tolerably evident that death was to be ascribed to paralysis of the heart, which was in turn to be ascribed to the inhibitory influence of chloral. Like chloroform, chloral appears to have the power of reducing the natural force of action of the heart, and sometimes of stopping the play of the organ. Facts are not wanting to indicate that it exerts this power through the sympathetic system, and, indeed, that the inferior cervical ganglion is the chief centre through which it operates. Du Bois Reymond showed that applications to this ganglion could be made to accelerate or impede cardiac contractions, and that it was in intimate relation with the pneumogastric nerves ("Comptes Rendus," March 25th, 1867) and with the spinal cord. It is interesting to note how identical the post-mortem appearances noted in the case of B. B—— are with those which have been found in many cases of death after chloroform.

I have felt obliged in this paper to compress, as much as might be, my observations on the inconveniences and dangers of chloral, and to omit many curious and instructive details. I have perhaps said enough, however, to vindicate the thesis—that serious hazards attend its employment, and that it ought only to be resorted to with medical advice.

March 2nd, 1871.

TWO CASES OF OVARIOTOMY.

BY A. C. C. DE RENZY,
SANITARY COMMISSIONER, PUNJAB.

KUNMOO, aged thirty, was admitted into the Multan Dispensary on the 1st May, 1866, in a very anæmic state. She had suffered from an ovarian tumour of great size for some years. She had been tapped six times, the last time on the 16th March, when, it is said, three gallons of "coffee-grounds" fluid was removed. The operation was followed by great prostration. The sac refilled rapidly; and after a fortnight or so it had nearly attained its original size. As her life had now become a burden to her, I consented to her earnest entreaty to be relieved of the tumour at any risk.

I operated on the 20th May, assisted by Drs. Greenhow, Wood, and Alcock. The tumour was found firmly attached all over its anterior surface by very strong leathery adhesions, which required considerable force to break up. The right half of the omentum presented a blackish diseased appearance, the contained glands being soft, black, and pultaceous. The pedicle was about three inches long. It was tied in two parcels with a silk ligature, and its extremity was brought out and fixed in the external wound with a needle in the ordinary way. The diseased portion of the omentum was partially removed, the proximity of the colon having deterred me from a more complete removal of it. The patient bore the operation very well, and appeared to be going on very well for nine hours afterwards. She had a quiet sleep for some hours. Towards evening, however, symptoms of peritonitis supervened; and she died the following morning at three o'clock.

A post-mortem examination revealed a very circumscribed peritonitis, confined entirely to the right side of the abdomen and encircling the diseased part of the omentum. The peritoneum external to the diseased circle was paler than usual. If the patient had lived longer, the whole of the peritoneum would probably have become involved in the inflammation; but the fact that in the first instance the inflammation was so strictly limited to the parts adjacent to the diseased omentum suggests that a blood-poison, derived probably from the softened mesenteric glands, was the immediate cause of the fatal result in this case. Later experience has convinced me that the diseased structures might have been removed with comparative safety. The tumour was multilocular; the solid portion weighed 29 lb.

MIRIAM, aged thirty-three, a Mussulmani woman, was admitted into the Multan Dispensary on the 4th of May, 1867. She had suffered from an ovarian tumour for six years. She was tapped in the dispensary on the 10th of December, 1866. The tumour refilled very rapidly. On admission she was in a very low state, being greatly emaciated and anæmic; ankles œdematous; pulse small and thready—120 to 140; great dyspnœa, caused by the pressure of the tumour on the diaphragm and the displacement of the heart upwards. Her girth, measured round the umbilicus, was fifty-one inches; from the ensiform cartilage to pubes, thirty-two inches. She complained of distressing thirst; her tongue was red, and presented numerous deep, sharp-edged fissures, as if cut with a knife; her urine was free from albumen. She was in so low a state that I shrank from an operation having for its object the removal of the tumour, and I contented myself with tapping. On the 10th of May I drew off twenty-eight pints of the usual straw-coloured ovarian fluid. After all the fluid had come away there remained a solid, immovable tumour, which occupied the whole of the abdomen below the level of the umbilicus. The operation relieved the dyspnœa greatly, and she was able to lie down and have some refreshing sleep. Her pulse, too, became firmer and larger, though its frequency was as great as before. After a few days it became apparent that the tumour was refilling rapidly, and by the end of May it was as large as ever, and her distress became so great that I could not resist her importunities to be relieved at any risk. Having got a large trocar and canula made in the bazaar, I proceeded to remove the tumour on the 4th of June, 1867, assisted by Assistant-Surgeon C. A. Maunsell, R.H.A.; Staff Assistant-Surgeon J. Jones; and Sub-Assistant-Surgeon Ram Lall Ghose. The weather at the time was intensely dry and hot. The operation took place at six in the morning. The thermometer in the shade then marked 90° F., the wet bulb standing at 69° F. At 4 P.M. the dry bulb stood at 112° F.; the wet bulb 71° F.

The tumour being exposed, I found it in every direction so firmly adherent to the abdominal parietes that for a moment I despaired of being able to remove it; but, remembering that a miserable death to the woman would be the *certain* result of its being suffered to remain, I took courage, and, by tearing and cutting, with great labour I at last succeeded in freeing the tumour from its anterior attachments; but it was so firmly attached posteriorly that very forcible traction had to be applied for some minutes before it gave way. The pedicle, which was short and thick, was first tied in two parcels with a horsehair ligature, made of five horsehairs twisted and doubled so as to form a pretty strong rope. The second parcel being tied, the ligature was turned back so as to include the whole pedicle in one noose. One end of the ligature was cut off, and the other brought out, the end of the pedicle being fixed in the external wound in the usual way with a needle. The abdominal wound was closed in the usual way with deep-set needles and superficial horsehair sutures. As soon as she had recovered from the effects of the chloroform the patient took a dose of one drachm of laudanum, and soon fell asleep. She had not a bad symptom afterwards. She was fed on bread-and-milk, and good soup made of beef extract. Her bowels remained unmoved for five days, and she was unable to pass urine without the aid of the catheter till the 9th, when she regained full control over the bladder. Her bed was lifted out of the ward every evening, and placed in the open air, where she slept through the night.

As soon as the patient got strong, she became very impatient to have the pedicle ligature removed; but up to the 24th June it showed no signs of coming away. On the 26th, in my absence, she tugged at it herself in hopes of getting it out; and her violence brought on severe pain and tenderness all over the abdomen, which looked very serious for a time, but hot poultices and a large opiate dissipated the danger. Up to the 28th July the ligature remained firmly attached, and, as she was getting greatly annoyed at what she regarded as an unseemly blemish, I cut it off as deep in the wound as I could reach with the point of a scissors. She was discharged from hospital the same day.

On the 11th October she rode-in twenty miles on a pony to ask my advice for a neighbour who had a large spleen. She looked remarkably well, sleek, fat, and well-thriven.

At the point of exit of the ligature there was a small papilla, from which a drop of watery fluid exuded.

The tumour was multilocular. The solid portion weighed 14 lb., the fluid portion about 28 lb.

I was led to use horsehair as a ligature in this case by my experience of its advantages as a suture in several rhinoplastic operations. It appeared to me to have all the advantages of silver wire as a suture. It did not act like a seton, and lead to the formation of pus, as the ordinary thread suture did. It appeared to cause no more irritation in the tissues than does a gold or silver ring in a woman's nose or ears. At the time of the operation I was under the impression that a horsehair ligature would have cut itself out as the thread suture does, but in the present case it is certain that it has not done so; and from a few experiments made subsequently on dogs, I have reason to believe that a horsehair ligature would very rarely if ever become detached. I castrated a dog, tying the spermatic cord with one horsehair. After two months the dog was killed, when I found the end of the cord firmly agglutinated to the adjacent tissues, and encircled by the hair just as when it was first applied; the end of the cord distal to the ligature had been reduced to a semi-ligamentous condition, owing to the diminished circulation of blood in it. I also tied the femoral artery of a dog with a horsehair, and the external wound was closed up with horsehair sutures. Though the animal licked the sutures out, the wound after a time healed up; and when, three months afterwards, the animal was killed, the ligature was found *in situ* on the occluded artery. The same experiment performed on the carotid artery gave a similar result; but in this case, the animal being unable to lick the wound, it healed up by the first intention, and so well that I had great difficulty in discovering the cicatrix at the post-mortem. In an amputation of the forearm of a woman I tied the radial, ulnar, and interosseous arteries with one horsehair each, both ends of the ligature being cut off close to the vessels, and closed the wound with horsehair sutures. The wound healed very rapidly and almost by the first intention, and the patient appeared to suffer less pain than I had before observed in any similar amputation. The ligatures were carefully looked for, but never made their appearance, and I believe they remained *in situ* on the vessels.

The case of Miriam renders it, I think, probable that horsehair would prove a very valuable material for ligatures in ovariotomy. One horsehair would be found quite strong enough to arrest hæmorrhage from the pedicle, or from any vessels that might require to be tied in the course of the operation. The pressure exerted by a horsehair might be made at least equal to that which suffices to arrest hæmorrhage by acupressure. A pedicle ligatured with a horsehair might, I believe, be dropped into the pelvis with an almost entire freedom from risk of suppurative inflammation.

Kingstown, February, 1871.

REMARKS

ON THE GUNSHOT WOUNDS OF THE WAR, THEIR NATURE, AND THE TREATMENT ADOPTED IN THE FIELD HOSPITALS.

BY SANDFORD MOORE, B.A.,

ASSISTANT-SURGEON 4TH DRAGOON GUARDS.

As I had the honour of being selected by the Director-General of the Army Medical Department to accompany the ambulance equipped and despatched to France in October last by the Society for Aid to the Sick and Wounded in War, and as I remained with it in the Prussian lines from that time until the end of the war, the following remarks, which I select from my notes, may be found worthy of a place in THE LANCET.

I had opportunities of seeing wounded, not alone in what one might call the permanent hospitals, as at Versailles, Orleans, Chartres, and other towns, but also (since the ambulance accompanied the ambulance column of the Prussians) immediately after the wounds were inflicted on the field. Amongst this number I have seen but one sabre wound; the remainder have been caused either by bullets or shells, or by objects set in motion by these, such as splinters of wood. I have not seen a bayonet wound.

The shell wounds have varied in every degree of severity, from proving instantly fatal to one or more men to the mere flesh scratch. The bullet wounds, no less fatal, demanded the surgeon's attention not alone from the injury inflicted on the parts, but from the eccentric course sometimes taken by the ball. One bullet dropped down a man's trowsers and fell into his boot, having previously passed through both thighs, scrotum, and prepuce, making in all eight wounds caused by this one ball. Another I have seen where the ball lodged in and was subsequently extracted from the right iliac region, having before this passed through the left elbow-joint and across the abdomen. And a third exemplifying the erratic passage of the ball: A soldier received a bullet wound of the left thigh; and this was the only one which could be discovered about this extremity, or, in short, his only wound; nevertheless, a bullet was found lodged in his right thigh, a short way above his knee, and was subsequently extracted. Where was the wound of entrance? I presume it was on the opposite thigh, and the ball must then have travelled round by the pelvis to where it was found lodged.

I have seen but one wound said to be the result of an explosive bullet, and this was most probably a shell wound. The man was a Prussian soldier. The lower maxilla, integument, tongue (all but the root), and muscles had been torn away.

On the whole, wounds of the lower extremity have been more frequent than those of the upper; this has resulted, no doubt, from the long ranges at which the firing took place. Both chassepôt and Prussian and Bavarian bullets split the shafts of the long bones alike. At the commencement of the war it was considered that the chassepôt bullet did not; I have had frequent opportunities of seeing that it does.

The differences observed in the size and appearance of the wounds of exit and entrance have not, in a great number of cases, been quite so apparent as those laid down in the books. It greatly depended upon the velocity with which the bullet was travelling. The greater the velocity, the less the difference between the two, and *vice versâ*; and this held good even when substances offering considerable resistance, such as the shafts of the femora, had to be traversed.

That the powers of the German of enduring pain with both patience and fortitude are greater than those of the French soldier I think is undisputed on all sides; and this higher vitality makes no small element in the cure of wounds. I fancy that I have seen more cases of traumatic delirium and irritative fever amongst the French, and more inclination for wounds to become foul and take on unhealthy action, *cæteris paribus*, than among the German wounded.

Under the head of treatment I would make some remarks on:—1. Amputations (the time chosen by Prussian surgeons) and excisions. 2. The uses of carbolic acid during the war. 3. Remarks on some special splints, the Trathosen, &c. 4. Some Prussian hospital appliances, the Esmarch bind, &c.

1. There are two operations which the whole experience of the war goes to show should be abandoned, at any rate in field hospitals, or until all further necessity for moving the patient is ended—viz. (*a*) excision of the knee-joint; (*b*) amputation by the flap method in the upper or middle third of the leg.

(*a*) As to excision of the knee-joint. These cases have proved exceedingly fatal. Prof. Nusbaum, of Munich, has performed this operation more frequently than any other surgeon during the war—between thirty and forty times. I have been given to understand, from a good source, that the operation has not met with success, even at his hands—not with such success as to justify its continuance in war time. And in my endeavours to sift the matter amongst both French ambulance surgeons and many Prussians, I have always received the same answer, that their cases died. The only case I assisted at I was unable to watch in its progress, owing to my being obliged to push on with the army; but I have since been informed that this one also ended fatally. During the latter part of the campaign, in the operations about Vendome and Le Molns, this operation has been abandoned by military surgeons, and amputation through the joint, or above it, performed instead. I understand that

pyæmia and suppurative exhaustion were the principal causes of this mortality. I have seen Nusbaum perform the excision in a very rapid manner, and without requiring any assistance from anyone. With two transverse semi-elliptical cuts he removed the patella and overlying integument; then by a few touches laid bare the ends of the bone, when the bullet was found lodged in the head of the tibia. A good large slice was now taken off the ends of the bones, a linen band soaked in a watery solution of carbolic acid (1 in 200) laid across the floor of the wound, the ends left projecting on either side, and the edges of the wound then brought together over this band, and retained in position by wire sutures.

What a contrast excisions of the elbow- and shoulder-joint present to those of the knee-joint! The former have been found to do exceedingly well, and bear transportation, whereas it is almost death to transport a man with an excised knee—a fresh cause of mortality in itself to these cases.

(*b*) And now as to amputation by the flap method in the middle and upper third of the leg. The great objection to this method being employed in this situation is that, when the flaps are made to contain the muscles, the posterior one becomes very heavy; and, in spite of the best endeavours which can be given in the limited time in hospitals even for each patient, and more certainly still if transportation is attempted, will tear away from the anterior, leaving a large gaping wound with an extremely painful sensitive surface, very tender to the touch, and nasty projecting corners of bones, soon causing fever and traumatic delirium, if not exhaustion and death. On the other hand, when the flaps are only made to contain skin, they take a longer time (and time is of great importance often in these cases) to make, and do not offer so good a covering in this situation for the ends of the bones as that produced by the circular method. Upon the whole, therefore, I consider that circular amputations in the middle and upper third of the leg would, as a rule, meet the exigencies of military service in the field best.

The circular method of amputating limbs is that generally practised by the German surgeons. I have not met with any adepts at the flap; indeed, an anecdote is related of a distinguished military surgeon who, at the commencement of the war, very successfully amputated a body from one of the lower extremities. I am not, however, in a position to vouch for its accuracy. They also object to making primary amputations, and elect to operate on the third or fourth day, if possible. Professor Huetar, of Marburg, has laid down, "that to operate on the third or fourth day is to cut all inflammatory fever short." So gunshot wounds of the knee-joint and ankle-joint, and compound comminuted fractures of thighs and arms, are quietly left untouched until the third or fourth day, or perhaps longer, as the following table will show:—

Place.	No. of amputations.	Days after receipt of injury.	Nature of injury.
Bayneux ...	3 ...	3 ...	Gunshot wound: lower third of thigh. Shell wound: foot and lower third of leg blown off. Gunshot wound: upper third of leg.
„ ...	1 ...	5 ...	Ditto ditto
„ ...	1 ...	8 ...	Gunshot wound through knee-joint.
„ ...	1 ...	9 ...	Ditto ditto
„ ...	1 ...	11 ...	Ditto ditto
Meung ...	1 ...	52 ...	Gunshot wound through ankle-joint.

Here it will be seen that three gunshot wounds of the knee-joint were left untouched—one for eight days, one for nine days, and one for eleven days; and a similar wound of the ankle-joint, though with more extensive shattering of the bones, was left unamputated for fifty-two days.

In cases where gunshot wounds happened in the vicinity of the large joints it became a knotty question whether the joint was opened or not, owing to the uncertainty as to the amount of damage done by the ball—in short, whether it simply confined itself to smashing, or to smashing the bone and splitting the shaft as well. This uncertainty could not be better illustrated than by the following three cases. (No. 1) Private Johann B——, 32nd Regt., while advancing with his regiment to storm the village of Pouprey, on the 2nd of December, and exposed to a flank fire, was hit by a bullet on the inner aspect of the left thigh, a few inches above the condyles of the femur; the bullet then passed directly outwards, smashing the bone on either side of its course for a little distance. On introducing the finger into the wounds numerous small fragments could be felt; the artery, vein, and nerve were uninjured. Amputation at the middle third was performed three days after, when it was discovered that the joint was not opened. (No. 2) Private P. S——, 83rd Regt., was wounded by a ball in the right knee as he was about to kneel down; the bullet lodged. The day following some œdema of the foot was observed, and exploration with the finger detected the upper edge of the patella chipped. Was the joint opened? No operation, however, was determined on until the 11th inst., nine days after, when it was found that the ball had, after damaging the patella, entered the femur above the intercondyloid notch by a round hole, and thence taking an upward course through the bone, had lodged posteriorly in its substance, just about opposite the top of the popliteal space. The joint was not opened. (No. 3) On the same day an under officer, J. B——, 40th Regt., was struck by a ball below the left patella; turning sharp round this, it disappeared, and could not be felt. Was the joint opened? For eleven days it was considered that it was not, but that in some curious manner the ball had avoided the joint, and passed backwards. However, on this day the joint commenced to swell above the patella, and synovia came through the wound. So the operation was determined on. It was then found that the ball had grazed the intercondyloid space; nevertheless it had split the shaft of the femur right up for three inches, and then passed directly downwards and backwards through the articular surface of the head of the tibia, to the inner side of the crest on that surface, by a well-defined punched-out opening, and slightly starring the surrounding bone, making its escape into the lower popliteal space, where it was found lodged in the belly of the gastrocnemius. Eleven days with all this mischief; still no pain, no synovial fluid, no swelling. Naturally enough it was a time for the conclusion that this injury was of the nature of the two preceding cases, and that the joint was not opened.

It has been observed that the mortality amongst the wounded in this war has been much greater than that of the war of 1866. However, at Cravant, near Beaugency, the 5th French Ambulance found that five out of nine amputations of the thigh recovered, or 55 per cent. of recovery; while at Bayneux, amongst our own cases, three out of five recovered, or 60 per cent. Amputations and excisions of the upper extremity were extremely successful; excisions of the knee-joint very fatal.

Pyæmia and hospital gangrene proved as great scourges as ever in the hospitals. It seemed extraordinary how these diseases appeared in some buildings and not in others, although both apparently presented the same conditions for attracting the diseases. Nor does the supposition of superior hygienic arrangements explain their absence from some buildings; for a very dirty building, with patients huddled together in small rooms, their personal cleanliness entirely neglected, and each man with one or more profusely suppurating wounds, was given over to our ambulance in January last, and in this building there had been no pyæmia or gangrene, although it had been occupied by a still greater number of wounded for a month back.

I have remarked that these diseases do not occur in buildings used as hospitals until they have been in occupation for some time, for ten days at least. I have not seen them occur in a room for only one patient, provided always that this room was not previously occupied by wounded. I have not seen them occur amongst patients in the upper stories of a house. As soon, however, as a room becomes poisoned, no disinfection or whitewashing seems to be sufficient to drive away the poison immediately, for the remaining patients placed in the room speedily become pyæmic also; men with slight as well as severe wounds take pyæmia. However, when the disease commences *de novo* the first cases are men with severe wounds. I have noticed a tympanitic condition of some wounds which have ended in pyæmia or extensive gangrene.

What, then, seems a rational course to adopt when pyæmia breaks out in a field hospital? Remove the case at once to another building, the upper story, if possible, and to a room by himself, and, as we found very beneficial with some of our cases at Bayneux, give large doses (twenty drops or half a drachm) of tincture of perchloride of iron frequently, every second or third hour. This seems to have some power of arresting the changes taking place in the blood, to arrest the cough and shivering; some general stimulant, such as port wine, also to be given freely.

(To be concluded.)

A Mirror
OF THE PRACTICE OF
MEDICINE AND SURGERY
IN THE
HOSPITALS OF LONDON.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. THOMAS'S HOSPITAL.

CASES UNDER THE CARE OF MR. SIMON.

A Case of Suppuration in the Tissues superficial to the Hip-joint.—A young woman was admitted some three weeks ago with a profuse purulent discharge from an opening situated immediately over the hip-joint; it had since resisted every attempt to check it, and had brought the patient into serious peril. In repeated examinations which she has undergone, Mr. Simon had failed to detect the slightest evidence either of bone or joint disease; he had met with nothing more than a large suppurating cavity in the soft tissues, and to which he was inclined to attribute a bursal origin. He gave instructions that the patient should be removed to the seaside, and expressed foreboding as to the termination of her illness, which the patient's wasted and hectic appearance appeared to justify.

The Treatment of Cancer.—A woman had been admitted with an epithelioma of the tongue, in a stage so advanced that Mr. Simon did not consider it advisable to operate; but as he holds that unremitting efforts should be made to discover, either within or without the Pharmacopœia, some substance which will exercise a remedial influence over growths of a cancerous nature, he is making trial at the present time of the biborate of soda.

Acute Suppuration in and around the Knee-joint. — The patient exhibited the good effect which follows early and free incision in this class of cases. On admission, the left knee-joint and the adjacent tissues of the thigh and leg were in a state of acute inflammation. Under the treatment just indicated the inflammation completely subsided, and the patient has recovered sufficiently to be able to flex the leg to an angle of thirty degrees without difficulty or pain; but, as the joint permits of an excess of lateral movement, she will be obliged, on leaving her bed, to wear, at least for a time, some appliance which will afford lateral support. The scars of the incisions bear witness to the extent of the inflammation; one is situated on the external margin of the popliteal space, and there are four others on the internal and external aspects of the leg and thigh, two on each side, from four to five inches apart.

The influence of Vibriones on Vesical Discharges.—A middle-aged man came under Mr. Simon's care suffering from stricture of the urethra, and a purulent catarrhal discharge from the bladder, which rendered his urine peculiarly offensive. The urethra was first dilated in two successive operations by means of Holt's instrument, and then the bladder was daily washed out with a solution of quinine through a double-current catheter. Under this treatment the urine became clear and free from offensive odour in a few days, and the patient, from being obliged to rise as many as fifteen times a night to micturate, became able to hold his water so well that he needs to leave his bed no more than once or twice within the same space.

Referring to this patient, Mr. Simon said that the presence of vibriones in a purulent catarrhal discharge from the bladder coincides with an exceedingly foul and offensive condition of the vesical evacuation, which ceases to exist when the destruction of these bodies is effected. That object is attained most readily by injecting into the bladder a solution of quinine. Mr. Simon makes use of the hospital solution, which contains two grains to the ounce. He recommends that nitric acid should be the solvent employed, and that a drop of acid should be added in excess of neutralisation.

LONDON HOSPITAL.

WOUND OF THE BRAIN THROUGH THE ROOF OF THE LEFT ORBIT; HEMIPLEGIA; COMA; CONVULSIONS; DEATH WITHIN FOUR DAYS.

(Under the care of Mr. COUPER.)

For the following notes we are indebted to Mr. P. Holmested, dresser.

The patient was brought, at a late hour, to the hospital, by the police, in a state of insensibility. The only history they could give was, that he had lain in that condition in a public-house for about twenty-four hours. He was known to have been well up to noon of the preceding day. He could not be roused; the pupils were semi-dilated and sluggish; the left lids were discoloured and swollen. Firm pressure in the region of the left orbit made him wince—i.e., the left facial muscles contracted, and the left arm was raised to push away the examiner's hand; the whole of the right side of the body was paralysed. A few hours after admission, there occurred, in frequent paroxysms, convulsive twitchings of the right side of the face and neck. On the following day the right arm and the right side of the face and neck were convulsed. On the third day both sides of the face and neck were convulsed, and the left leg and arm were found to be paralysed. On the second day the thermometer stood nearly a degree higher in the right than in the left axilla. By the evening of the third day it stood at 104·4° on both sides. The breathing was loudly stertorous. Death ensued on the morning of the fourth day.

In reference to this case Mr. Couper said that the concurrence of right hemiplegia with signs of injury to the left orbit suggested fractured base and pressure by a blood-clot on the left side of the brain as the most probable cause of the symptoms. In considering whether this clot could be reached by the trephine, it was necessary to inquire, first of all, what was its source and where it was situated. If the hæmorrhage had proceeded from a branch of the middle meningeal artery, the clot could probably be reached by trephining the parietal bone; but if, on the other hand, it was situated at the base of the skull, trephining would, of course, be worse than useless. Assuming that the base of the skull was fractured, it did not necessarily follow that the clot was there, or that the fracture was confined to the base. A fissure might extend to the parietal bone, and a branch of the middle meningeal artery be wounded. The absence of all indication on the scalp proved nothing, since a fissure without depression could not usually be detected by any external sign if it were an extension from a fracture at the base. From this point of view only it could not be said that trephining was inadmissible; there was, indeed, even a certain justification of it in the patient's hopeless state. The convulsions, however, pointed to mischief yet worse than a clot. They indicated that the brain itself had been damaged, either mechanically or by meningitis, and contra-indicated operative interference.

The post-mortem examination disclosed a large blood-clot under the middle and anterior lobes of the left cerebral hemisphere. No part of it could have been reached by the trephine. The whole substance of the left anterior lobe, including the corpus striatum, was reduced to a semi-fluid pulp mixed with blood-clot. In the roof of the left orbit was a small stellate opening, through which some sharp instrument had obviously penetrated deeply into the brain and wounded the vessels running to the corpus striatum; from these most of the blood had proceeded. A little flap of bone in the roof of the orbit, hardly half an inch broad, hinged like a lid by its anterior part, opened towards the cavity of the skull. On the skin of the upper lid was found a minute

dry scab, which had escaped notice during life. It covered the orifice of a recent punctured wound which led straight to the opening in the roof of the orbit through the substance of the levator palpebræ muscle, which was infiltrated with blood. The upper conjunctival fossa was uninjured. The channel in the soft parts admitted only a thick probe. It was such a wound as the prong of a fork or a pointed foil might have made. The opening in the bone, however, admitted of the passage of a broader instrument.

MOORFIELDS OPHTHALMIC HOSPITAL.

CASE OF RENAL RETINITIS, WITH PECULIAR HISTORY AS TO SCARLET FEVER.

(Under the care of Mr. HUTCHINSON.)

A CASE of some interest in reference to the connexion between scarlet fever and renal disease came under notice at Moorfields a short time since. A young woman, who asserted that she was in good health, had been brought by her mother from Jersey on account of failure of sight. She could only read No. 16 J. (i. e., large capitals), and the history given was that her sight had failed rapidly during last July.

On examination with the ophthalmoscope the conditions found were characteristic of renal retinitis. In each eye the retina in the neighbourhood of the optic disc was everywhere infiltrated with white deposit, which wholly concealed the choroid, and which almost completely buried also the trunks of the retinal vessels; there were a few small linear apoplexies; the quantity of lymph effusion was unusually great. The diagnosis of the renal disease was of course at once made, and the patient's previous history was then more carefully investigated. It should be stated that her face was somewhat pale and puffy-looking. Although at first she had stated that she was in good health, she admitted, on being questioned, that she had for some months lost her appetite and suffered from nausea; for a considerable period in the summer she had had constant morning sickness; she had had no dropsy. It appeared that in May last her brothers and sisters (all younger than herself) had been ill with scarlet fever; she, however, although she had never had it, and although she adopted no precautions against contagion, did not, as far as was known, take the disease. Both she and her mother stated positively that she had never at any time either rash or sore-throat. It is to be remembered that the scarlet fever was in the family in May and that the retinitis began during July. On subsequent examination of the urine it was found to contain a considerable quantity of albumen with many granular and a few hyaline casts. There was probably some hypertrophy of the heart, and also a slight bruit with the second sound. Thus a question of considerable practical importance is raised as to whether this patient did really, without knowing it, suffer from the scarlet fever poison three months before the occurrence of her symptoms of renal and retinal disease.

In adverting to this point, Mr. Hutchinson expressed his opinion that patients not unfrequently pass through the exanthemata without knowing it, the specific blood changes occurring without any rash on the skin. He stated that it was very common for patients to become the subjects of constitutional syphilis, with the liability to tertiary phenomena, who had never had any secondary symptoms, and he instanced the fact that many children appear to acquire immunity as regards the different exanthemata without having suffered from them, as one in favour of the belief that they do really sometimes pass through them without its being known. Nor was there, he observed, anything unusual in the occurrence of severe sequelæ after a very mild, or even altogether doubtful, attack of a specific fever. Some of the worst forms of diphtheritic paralysis occur after the mildest cases. It was true that in this instance the interval between the suspected exanthem and the occurrence of the retinitis was unusually short, for retinal changes in connexion with kidney disease occur for the most part in advanced stages. They were, however, by no means closely restricted on this point, and all authorities agree that they are sometimes found with the large flabby kidney. There being no other evident cause for the renal disease, it appeared, as Mr. Hutchinson thought, most probable that it was really due to what might be considered an abortive attack of scarlet fever.

The treatment of the retinitis resolved itself into that of the kidney disease. Mr. Hutchinson prescribed small doses of the sesquichloride of iron, and advised the patient to restrict herself as much as possible to a regimen of milk. As she came from a Jersey farm, she would at home be in a position to give Professor Niemeyer's recommendation on this head a fair trial, and she expressed herself as very willing to do so.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

TUESDAY, MARCH 7TH, 1871.

MR. J. HILTON, F.R.S., PRESIDENT, IN THE CHAIR.

MR. MARCUS BECK exhibited a specimen of spindle-shaped Sarcoma affecting the posterior tibial nerve, and taken from a man aged thirty-two. The tumour had been growing for four years. The leg had been amputated in the belief that the disease was malignant.

Dr. GREENHOW exhibited a specimen of Epithelial Cancer of the Œsophagus, which had invaded the trachea, and caused frequent attacks of severe dyspnœa, with expectoration of small lumpy masses from time to time.

Mr. WEEDEN COOKE exhibited a specimen of Medullary Sarcoma of the Cranial Bones, associated with scirrhus of the breast, in an old person aged sixty-three; and a second case of Scirrhus of the Brain with Aphasia, associated with scirrhus of the breast, which was removed by operation. In the first case the disease began five years since. There was a family history of cancer, and both parents and aunts had died of phthisis. The post-mortem appearances were briefly as follows:—The calvaria showed a deposit of soft lobulated medullary substance on its external table, lying between it and the tendinous aponeurosis of the occipito-frontalis muscle, covering the junction of the right parietal and frontal bones, and a portion of the temporal to the extent of some three inches by two inches. On the inner side of the calvaria there was likewise a soft medullary growth, which had penetrated the dura mater, and was somewhat larger than that on the external table. Its mechanical pressure had caused absorption of the membranes and a portion of the grey substance of the brain, the white matter appearing as though a clean slice had been made to the extent of a square inch. In the second case, the tumour in the breast was first observed six months before, and had increased rapidly recently owing to a bad cold. It was removed on the 25th of May, and the patient was discharged quite well on the 9th of July. Subsequently slight paralysis appeared on the right side in the month of August, but passed off, leaving the patient with violent headache and some defect of speech. This latter symptom increased, and the hemiplegia of the right side returned as the case went on, and death ensued. Two deposits were found imbedded in the substance of the left hemisphere of the cerebrum. The deposits were hard, quite characteristic of scirrhus, and each about the size of a pigeon's egg. The site of the anterior deposit—the third left frontal convolution—was noteworthy in connexion with the aphasia observed in the later stage of the case, which was complete. These two cases, said Mr. Cooke, served to open up again the question of the local origin of cancer. He observed that if it could be ascertained positively that cancer had its origin in one primary deposit, of what advantage would this knowledge be to the patient or the surgeon. Surely as soon as one pregnant germ is deposited, which, of course, must be utterly undiscoverable by either patient or surgeon, the second procreation may at once be carried away, and the whole area of the body become infected. One idea, Mr. Cooke said, was suggested by these two cases, which is corroborated by the history of a host of others—viz., that hereditary decay is interchangeable in its effects. Tuberculosis is recorded in the history of both these cases; and, although one had to meet the objection that every tenth person dies of tuberculosis in these isles, and therefore that nearly all diseases may be more or less associated with it, much observation

compelled the author to the conclusion that hereditarily these diseases, phthisis and cancer, do beget one another.

Dr. DICKINSON exhibited a Mesenteric Tumour from the body of a boy two years of age, and weighing 2 lb. 5 oz., and occupying the whole left side of the abdomen. It was made up of an ill-developed areolar tissue, of highly nucleated fibroid tissue, and partly of cartilage, with a fluid like mixomatous fluid. Dr. Dickinson also exhibited sections of the Spinal Cord from cases of Tetanus.

Dr. WHIPHAM showed a Dissecting Aneurism of the Aorta, which was chiefly enclosed in the pericardium.

Dr. HAWKES (Hanwell), exhibited a specimen of Rupture of the Aorta associated with a diseased heart, and a Tumour of the Brain taken from a patient admitted for mania. There was an old clot in the posterior hemisphere of the brain, and a mass in the left corpus striatum supplied by an artery the size of a crow-quill, probably an aneurism or a changed clot.

Dr. THEODORE WILLIAMS exhibited a specimen of Aneurism of the Transverse and Descending Aorta bursting into the œsophagus, taken from a man aged thirty-eight.

Mr. HENRY MORRIS showed for Mr. SHOUT, of Petworth, an Aneurism of the Abdominal Aorta, bursting behind the peritoneum above the cœliac axis on the first occasion, and on the second into the peritoneum itself.

Dr. DOUGLAS POWELL showed a specimen of Dislocation of the Axis from caries and rupture of the transverse ligament; the odontoid process of the axis pressed on the cord, but there were no signs of inflammation. The patient died suddenly.

Mr. W. SPENCER WATSON read the report of a case of Spindle-celled Sarcoma of the Leg, for Dr. JOHN S. WALKER, of Hanley, Staffordshire. Tumours had already been exhibited on a former occasion from the same patient, and the one now brought forward had recurred for the fifth time. It was a bleeding fungoid mass of the size of a large walnut, and was situated over the upper end of the tibia. Before removal of the growth on the last occasion, Dr. Walker tied the femoral artery in Scarpa's triangle, with a view to prevent the recurrence of the growth. The wound left after removal healed rapidly, and had not recurred at three months date from the operation. The patient, a lady of thirty, was able to walk well, and was in all respects well on the 6th March, 1871. The tumour was referred to the Morbid Growths Committee.

We omitted, by accident, from our last report of the proceedings of this Society, the particulars of an important communication made by Mr. HENRY MORRIS. This gentleman exhibited an interesting specimen of Strangulated Femoral Hernia, with reduction *en masse*, from a woman aged seventy-eight, admitted into the Middlesex Hospital on Jan. 11th last. On the 8th, whilst coughing, she felt something give way in the right groin, and, during the night and the next morning, had a great deal of pain at the lower part of the belly, and vomited repeatedly. On the 10th she applied for relief, and attempts were made to reduce the hernia by taxis, with the aid of the application of ice, but without success. The next day taxis was again employed without success, and she was sent to hospital. On examination, the hernia was found to be of the size of a large pigeon's egg. It gave no impulse on coughing, but the woman was sick, the vomiting being stercoraceous. Chloroform was given, and Mr. Lawson, before cutting down upon the hernia, attempted its reduction, but without result. After freeing all constrictions about the neck of the sac, the tumour was gently pressed, when it at once disappeared. But the symptoms of strangulation of the gut continuing, Mr. Lawson next day re-opened the wound and made a careful examination of the parts, when he found that his finger passed into a pouch which was not part of the peritoneal cavity. In this pouch he detected a small tumour, but no intestine was felt. It was now seen that the reduction previously effected had been *en bloc*. The neck of the sac still constricting the contained gut, a free incision was made in Poupart's and Gimbernat's ligaments, and the tumour hooked up from behind the pubes into the canal. The sac was laid open, the stricture divided, and the deeply congested coil loosened and returned into the peritoneal cavity. The sac was then ligatured and cut off. Some hæmorrhage occurred, and the patient unhappily sank in thirty-six hours. At the post-mortem, on passing the finger through the wound it entered a large cavity reaching upwards, behind the right rectus, below into the pelvis, outwards toward the iliac fossa, and inwards behind the bladder; the lower end of the rectus muscle was lacerated and projected into it from above. The back of the pouch was formed by peritoneum, subperitoneal fat, and fascia, with the bladder below, which organ, with the uterus, was pushed backwards towards the sacrum. There was no peritonitis, but the ileum, lying free in the peritoneal cavity, was congested in two places. One part was deep-red around almost the entire circumference, except where it had been strictured, at which spot it was soft and yellowish. The interesting points about the case of hernia were these: (*a*) That the reduction *en bloc* did not arise from complete rupture of the neck of the hernial sac, as is often the case in femoral hernia so reduced, nor from dilatation and subsequent rupture of one side of the neck, as is commonly the case in reduction *en masse* in scrotal and inguinal hernia, but from simple separation of the entire sac and surrounding peritoneum from the subjacent tissues. (*b*) The extreme facility with which the peritoneum was everywhere separated from the rest of the wall—pointing to a pathological and not to a mechanical cause of this reduction—reduction *en bloc*. (*c*) The great resemblance which the subperitoneal tissue in the femoral region presented to omentum—likely to lead to the supposition that an omental sac, and not a detached peritoneal one, has to be dealt with in such cases.

CLINICAL SOCIETY OF LONDON.

FRIDAY, MARCH 24TH, 1871.

DR. W. W. GULL, PRESIDENT, IN THE CHAIR.

DR. DUFFIN read notes of two cases of Roseola Varioloss that had come under his notice. In the first, some six hours after a severe rigor, a thickly-set papular rash appeared. It was strictly confined to the surface of the abdomen and the inside of the thighs, thus occupying a triangular space, with its base upwards. The rash blanched on pressure. The patient presented the signs of severe febrile disturbance. After forty-eight hours the eruption became purpuric, and at the end of an additional twenty-four hours uniformly confluent. The regular papules of small-pox then appeared on the face. The patient had two imperfect vaccine marks on his arm. The case ran a moderately severe course up to the period of the secondary fever, when the disease aborted. In the second case, a papular rash, in all respects similar to the other, appeared on the arms and thighs of a girl, twenty-four hours after severe rigors. The rash here also became purpuric on the third day, and on the fourth a modified small-pox eruption occupied the face. This patient also had been vaccinated. In reliance on the descriptions of Hebra and Trousseau, Dr. Duffin contended that where these limited rashes occurred they were pathognomonic of the appearance of small-pox, the diagnosis of which would be much accelerated. In vaccinated subjects they had little prognostic importance, but in the unvaccinated they were extremely formidable. No proper small-pox rash seemed to invade the purpuric area, which gradually faded as the disease evolved.

Dr. HILTON FAGGE confirmed Hebra's description of the rash preceding variola, had remarked the localisation of the rash, and believed that, when occurring in the situations described, it assisted the diagnosis of small-pox. He also referred briefly to three cases of purpuric eruption preceding small-pox, all of which proved fatal.

Dr. HABERSHON said that in such cases the diagnosis of small-pox was very difficult; that the roseoloid eruption was not confined to the abdomen, but in some instances extended along the hands and arms.

Dr. RASCH related particulars of a case of small-pox preceded by a rash that in many respects resembled scarlatina.

Dr. BROADBENT had seen six or eight cases that at the outset simulated scarlatina, and in which, twenty-four hours after the commencement of the illness, hæmorrhagic spots appeared about the conjunctiva and elsewhere. In five or six other cases the outer side of the thigh was most thickly studded, and there was also a considerable amount of passive hæmorrhage from the kidneys, and the mucous membrane of the large intestine.

Dr. A. P. STEWART related particulars of a case in which, twelve days after the rigor, a rash appeared on the arms and throat, which, after slight desquamation, was followed by a pustular eruption on the hands and feet, with pain and swelling. He was not aware of any similar case in which the small-pox had been determined in so brief a period.

After some remarks by Dr. SUTTON and the PRESIDENT as to the difficulty of diagnosis in the cases adduced,

Dr. DUFFIN, in reply, remarked that he had been very careful to restrict his paper to circumscribed morbilliform and scarlatiniform rashes, as he was well aware of the terrible importance of the hæmorrhages which sometimes complicate the more general scarlatiniform eruptions. The diagnosis in some of these instances he thought might be assisted by the patched distribution and greater depth of the redness. He had recently seen another instance where the purpuric rash had occupied the triangular space on the thighs and abdomen.

Mr. CHRISTOPHER HEATH read notes of "A Case of complicated Stricture of the Urethra treated by Mr. Syme's Operation for Impermeable Urethra." Mr. Syme's description of the operation was first referred to, and the case was related as follows:—A discharged soldier, aged twenty-eight, upon whom external urethrotomy had been performed in India, had an impassable stricture of the urethra, complicated with perineal fistulæ, and an old false passage of considerable length. The patient had been under careful treatment for six months before he came under Mr. Heath's care; but no instrument could be passed into the bladder, nor was Mr. Heath more successful after several careful trials. He therefore adopted Mr. Syme's suggestion, and introduced a director through one of the fistulæ into the urethra behind the stricture, then passed a steel staff along the urethra and made it meet the director, and thus enter the bladder. Instead of then cutting upon the staff and dividing the stricture, as suggested by Mr. Syme, Mr. Heath preferred to pass Holt's dilator along the urethra and split the stricture; and this was successfully accomplished. The patient made a good recovery, and was taught to pass his own instrument, which he continues to do to the present time.

Mr. MAUNDER, remarking on the general interest of the paper, said that patience, perseverance, and gentleness were required in the treatment of all these cases, and that forcible catheterism was objectionable. He objected to the operation described, would in such a case have performed perineal section, and should be glad to know from Mr. Heath the condition of the patient twelve months hence.

Mr. TEEVAN remarked that the performance of external urethrotomy without a guide was not so difficult as supposed. He objected to a catheter being left in the bladder after any of these operations, as it only tended to set up irritation and promoted the formation of a fistula. The catheter ought only to be passed every other day.

Mr. BARWELL saw no particular difficulty in the operation described, and thought that Mr. Maunder had magnified the obstacles unnecessarily.

Mr. COOPER FORSTER, adverting parenthetically to the long discussion that had ensued, and to the remarkable difference of opinion that existed on this point between surgeons north and south of the Thames, thought Mr. Heath's treatment right and proper. If an instrument cannot be introduced into the bladder through the natural channel, an artificial road must of course be made. The urethra is naturally dilated behind the stricture, and if operative procedures were confined strictly to the median line, no great harm could ensue. He did not believe in the "bristle" scheme; but

Mr. MAUNDER retorted that as, according to Mr. Heath, urine flowed, there must have been a passage.

Mr. HAWARD spoke in favour of puncturing the bladder in cases of impervious stricture.

Mr. CROFT said that Mr. Heath's case was doubtless unique, and demanded a special style of treatment, but that it was his practice to lay open everything, in which plan he had been invariably successful.

Mr. REEVES gave brief particulars of two severe cases that had come under his notice.

Mr. HEATH replied that the operation he had performed was devised by Mr. Syme and not by himself; but he thought that in the discussion some confusion had arisen between this operation and Mr. Syme's perineal section, which was better called "external urethrotomy." He must say that he thought this latter operation was not so simple or innocent a proceeding as had been stated, for it was well known that Mr. Syme himself had lost cases from hæmorrhage.

Mr. TEEVAN related the treatment adopted in a case of Retention of Urine from Impassable Stricture. The patient, aged forty-six, had suffered from severe organic stricture for ten years, and for retention with dribbling for nearly one year. Complete retention at last set in, when he was taken to a hospital, where, after an unsuccessful attempt to pass a catheter, he got relief from a hot bath and medicines. He afterwards came under Mr. Teevan for his complaint, who tried for half an hour, without success, to pass the smallest catheters and bougies. Another trial two days later met with no better result. The following afternoon complete retention set in, and at 4 o'clock the next morning Mr. Teevan, after a quarter of an hour's trial, succeeded in passing the No. 1 French gauge, smallest filiform bougie. On its withdrawal, ten minutes afterwards, a fine stream of urine began to flow, and continued for an hour, when nearly three quarts of urine had passed. The patient was afterwards cured of his stricture by gradual dilatation with the olivary bougie. Mr. Teevan remarked that he had called the case retention from impassable stricture, as no catheter could be passed for the relief of that retention, and he had brought it forward to show what the bougie could accomplish in an apparently hopeless case for its successful employment. The occurrence of the retention facilitated the passage of an instrument for the relief of the retention, and for the commencement of that treatment of the cause of the retention, which was carried out by gradual dilatation, and he would therefore have been unwise to have missed the opportunity presented by adopting such temporising means as the hot bath, &c. It was also clear that, in this case, the bougie had obviated any recourse to an operation. Another inestimable advantage gained by the bougie was, that the whole treatment had been carried out without the loss to the patient of an hour's work.

Mr. REEVES had tried these bougies, and had found that they often doubled up.

Mr. MAUNDER had the highest opinion of the value of these French bougies. Experience and skill obviated the occurrence of the incident mentioned by Mr. Reeves.

Mr. CHRISTOPHER HEATH was afraid that, although a filiform bougie might prove successful in Mr. Teevan's hands, yet most house-surgeons would probably fail with it.

Reviews and Notices of Books.

The Descent of Man, and Selection in relation to Sex. By CHARLES DARWIN, M.A., F.R.S., &c. In Two Volumes. pp. 423 and 475. With Illustrations. London: John Murray. 1871.

[SECOND NOTICE.]

WE concluded our first notice by a brief sketch of the principal arguments adduced by Mr. Darwin in favour of the origin of man from some lower animal, and in opposition to the idea of his being the work of a distinct and separate act of creation, many of which being, of course, very familiar to the members of our profession, it is unnecessary that we should enter into any details regarding them.

The bearing of these details is, Mr. Darwin remarks, unmistakable. "The homological construction of the whole frame in the members of the same class is intelligible, if we admit their descent from a common progenitor, together with their subsequent adaptation to diversified conditions. On any other view, the similarity of pattern between the hand of a man or monkey, the foot of a horse, the flipper of a seal, the wing of a bat, &c., is utterly inexplicable." And he goes on to say that, looking at the similarity of embryonic development, especially in the early stages, and the evidence derived from the presence of rudi-

mentary organs, we ought frankly to admit the community of descent of man and all other vertebrate animals; and he prophesies that the "time will before long come when it will be thought wonderful that naturalists, who were well acquainted with the comparative structure and development of man and other mammals, should have believed that each was the work of a separate act of creation." Concluding from the above arguments, then, that there is no essential difference between man and the higher mammals in regard to their corporeal organisation, Mr. Darwin next proceeds to ask whether there is any essential difference in their mental faculties. He points out, as circumstances strongly favouring the view that such differences as exist are differences in degree only and not in kind, the similarity of our senses with those of animals, rendering it necessary that our fundamental intuitions should also be the same; the identity of our instincts with theirs, though veiled and modified in man by the action of reason; and the facility with which proofs may be furnished of the occurrence in animals of mental operations similar to our own, of a more or less complex nature, as those of fear, suspicion, hatred, surprise, sorrow, emulation, jealousy. Mr. Darwin adduces various instances of the possession of a certain degree of what must, we think, be admitted to be reason; and it must not be forgotten that the highest faculties of the mind, embracing self-consciousness, the power of abstract thought, belief in God, &c., exist in a very rudimentary state amongst many savages even at the present day, and require considerable advance to have taken place in the mental faculties; but this advance probably occurred with comparative rapidity when speech, which is so powerful an instrument of the mind, had been acquired. In the exercise of even these faculties, however, man seems to differ in degree and not in kind from the lower animals; and when once acquired they would certainly tend to be inherited, and to undergo further increase by imitation and experience. In regard to the moral sense, the knowledge of right and wrong, or conscience, which is so characteristic a feature of man, and which, in the opinion of many, constitutes the essential and distinguishing difference between man and all the lower animals, Mr. Darwin lays its foundation in sympathy, in the fact of man's progenitor having been as man himself now is, a social animal; and he thinks that it is in a high degree probable that any animal endowed with well-marked social instincts would *inevitably* acquire a moral sense as soon as its intellectual powers had become as well or nearly as well developed as in man. For the social instincts would prompt such an animal to feel sympathy for its fellows, and to take pleasure in promoting the general good of the community, whilst by degrees regret would be felt if such promptings were neglected for the gratification of some passing desire or instinct. When language had once been acquired, public opinion would be expressed, by which the mode of action of each individual for the common good would be directed, and obedience to this expression of public opinion would ultimately be strengthened and promoted by habit.

In reply to the Duke of Argyll's objection that "the human frame has diverged from the structure of brutes in the direction of greater physical helplessness and weakness"—that is to say, it is a divergence which, of all others, it is most impossible to ascribe to mere natural selection,—Mr. Darwin remarks that,

"In regard to bodily size or strength, we do not know whether man is descended from some comparatively small species like the chimpanzee, or from one as powerful as the gorilla; and therefore we cannot say whether man has become larger and stronger or smaller and weaker than his progenitors. We should, however, bear in mind that an animal possessing great size, strength, and ferocity, and which, like the gorilla, could defend itself from all enemies, would probably, though not necessarily, have failed to become social; and this would most effectually have checked the acquirement by man of his higher mental qualities, such as sympathy and the love of his fellow-creatures. Hence it might have been an immense advantage to man to have sprung from some comparatively weak creature."

His intellectual powers enabling him to fashion weapons of offence and defence would, he thinks, in such cases, counterbalance his comparative inferiority in strength. But even granting that his progenitors were far more helpless and defenceless than existing savages, "if they had inhabited some warm continent or large island, such as Australia, or New Guinea, or Borneo (the latter island being now tenanted by the orang), they would not have been exposed to any special dangers. In an area as large as one of these islands the competition between tribe and tribe would have been sufficient, under favourable conditions, to have raised man, through the survival of the fittest, combined with the inherited effects of habit, to his present high position in the organic scale.

The formation of the various races of man Mr. Darwin thinks impossible to be accounted for by the direct action of the conditions of life, which indeed his mental powers enable him to battle with and overcome, nor by the effects of the continued use of parts, nor through the principle of correlation, but may be explained on the theory of sexual selection, and to the consideration of this subject a great part of the first and the whole of the second volume are devoted. He shows by an astonishing mass of evidence this agency to have exercised a most important influence in almost every class of the animal kingdom, in improving the physical strength, voice, and beauty, as well as the mental attributes, of both sexes, though more frequently of the male than the female; since it results essentially from the rivalry in fighting, song, or beauty between the males for the possession of the females. Such modifications of endowment may actually be in some instances, as in the brilliant plumage of many male birds, opposed to the survival of the fittest, by rendering the owners more conspicuous, though on the whole it may tend to the improvement of the race. Oftentimes such sexual characters appear only in the adult male, and in him may even be limited to the breeding season; but they are occasionally exhibited in a subordinate manner by the female. He traces the chief differences observed in the races of man to the action of this sexual selection exercised throughout many generations by both sexes, as in the matter of colour and form.

Strange Dwellings: being a Description of the Habitations of Animals. Abridged from "Homes without Hands." By the Rev. J. G. WOOD, M.A., F.L.S., &c. With Designs by W. F. KEYL, J. B. ZWECKER, and E. SMITH. London: Longmans, Green, and Co. 1871.

A FIRST-RATE book to put in the hands of a boy, and by no means a bad one in the hands of anybody. It is clearly written and effectively illustrated; and, considering the nature of the subject, it could scarcely fail of being interesting.

THE Islington Medical Society, at a recent meeting, presented its Honorary Secretary, Mr. George T. Keele, with a very handsome silver kettle, in some acknowledgment of his services for several years. The present was one that could not fail to be very gratifying to Mrs. Keele, as well as to her husband, for, in point of fact, it was a thing of great beauty. But those who know Mr. Keele, and the courteous and efficient way in which he has discharged the duties of secretary to this pleasant and useful suburban society, are all agreed that the testimonial is a just and well deserved one. The presentation was made in very apt terms by Mr. Clifton, and fittingly received by Mr. Keele.

THE LANCET.

LONDON: SATURDAY, APRIL 8, 1871.

IT will be interesting to observe how the members of the British Medical Association regard the question of Medical Reform as it is presented to them this year. The Reform Committee is in hopeless love with an imaginary Bill which is said to be based on principles affirmed at the meeting of the Association last year and on several former occasions. And we are not disposed to be too hard on the members of the Reform Committee. Nothing can be poorer than their conception of an efficient Medical Bill. It embraces but one idea—that of direct representation; and the persistency and monotony with which this one idea has been urged has done more than anything else to deter the Government from acceding to the universal wish of the profession to have the bodies which regulate and test medical education thoroughly reformed. The Government seems to think that Dr. WATERS and his colleagues wish to have a Medical Parliament in which to ventilate questions of medical ethics and the best modes of exterminating quacks and quackery. This idea has got so thoroughly into the official mind that we do not pretend to know when it will be got out again. We can well understand a Government hesitating to hand over a Medical Council, whose primary business is to supervise medical education, to men who show so inadequate a sense of the evils of our present system of medical education and examination. Still we are not going to be very severe on the members of the Reform Committee. Men are not to be judged too harshly for having few ideas, and for being very much attached to the few they have. The secretary of the British Medical Association makes another excuse for them which looks plausible—that they had no power to depart from the principles so repeatedly affirmed. The answer to this is that when another project of Medical Reform was brought forward embodying far more complete securities for the ends sought by the Association, and commanding the respect of many of its best members, they should have taken the sense of the Association on the question before using the influence of it against a measure which, for aught they know to the contrary, the Association will think infinitely preferable to the Bill which was thought sufficient last year. All this apart, we appeal from the members of the Reform Committee to the members of the British Medical Association, and fearlessly ask them to support that Bill which commends itself most to their judgment. It is fortunate that Mr. HEADLAM has withdrawn the Bill of the Reform Committee. If the Committee will use the time thus given to it in reconsidering the whole question, it may yet rise to the occasion and identify itself with the medical legislation that cannot be long deferred. If not, we shall hope to see the Reform Committee of another year itself reformed, and comprising men who wish the Association to be something more than a name and a tool of the medical corporations.

We would ask the members of the British Medical Association if they think that the mere addition of a few direct representatives to the General Medical Council would materially affect the character of its discussions, or increase its influence over the licensing bodies, which would still constitute one-half of the Council. THE LANCET Bill proposes to discontinue, at once and completely, the individual representation of the examining bodies. After their individual right to license has been withdrawn, as proposed in every Bill yet suggested, it puzzles us to see why they should continue to have individual representation in the Council at the expense of the profession, and to the great hindrance of that independent discussion of questions connected with the education and examination of students. But this is what the Reform Committee is trying to secure in perpetuity to the licensing bodies, with perhaps one or two exceptions. Will the members of the Association abet the Reform Committee in endeavouring to secure a separate seat for ever in the Council for sixteen or eighteen bodies whose individual licensing work is to be superseded even by the Association's own Bill? We trow not.

But we wish to direct the special attention of members of the British Medical Association to the examining boards that are contemplated in the Bill of its Reform Committee. We are taking for granted that they adopt in this respect the Government Bill of last year. Let us take England as an example. All the medical authorities in this part of the kingdom, from the Apothecaries' Society up to the London University, are to meet together like one of those happy families that may be seen occasionally in the off-streets of the Strand, and to organise a Conjoint Examining Board. After a time—how long a time?—let us suppose these diverse bodies all agreed as to the share they are respectively to have in the selection of examiners and in the fees accruing from examinations. The scheme would then have to be submitted to the Medical Council, containing nearly all the existing bodies. Any hardship which any examining body thought it had suffered in the scramble of the conjoint discussion would here be eloquently and pitiably set forth. Even if the independent members of the Council ultimately prevailed, it would not be till after a long sitting of the Council, which long sitting would probably cost the profession a thousand or fifteen hundred pounds. Not only so; if the Privy Council is either to sanction or reject the schemes for the composition of a Conjoint Board, it may confidently be anticipated that it will as often reject as sanction. And then the motley bodies will have to meet again to concoct another scheme. The Medical Council will have again to meet to discuss it, and on the ball will go, to the great expense of the profession, and all the while bad education and bad examinations will be going on. Now, if this is the best scheme that even a very liberal Government can devise or dares to propose for doing the simple duty of supervising and testing medical education, let it be so. But, for the sake of the profession, let it not have the sanction of a great free medical body that is under no obligation to the corporations, and which owes it to its founders and to itself to act earnestly at a crisis like this, which will determine for a generation to come the education of members of the

medical profession. THE LANCET Bill proposes that the General Medical Council should appoint an Examining Board of its own, responsible to it, and for the efficiency of which it should be responsible to the public and the profession. Surely this looks much more like a real attempt to cure the evils of low examinations which have been exposed by Dr. PARKES and others, to the great discredit of the profession.

THE LANCET Bill has been said "to aim high." We accept the cynical compliment. It does not aim quite so high as some reformers think it ought to have aimed. But, having regard to the timidity of Government in interfering with corporations, and to all that is really respectable in these corporations, it aims at being practical. It will provide a sensible Medical Council, and three good examining boards responsible to the Medical Council, which would serve as a standard by which all the work of the existing boards could be tested, and would leave them independently to dispose of their diplomas and degrees. If we have succeeded in placing before the members of the British Medical Association anything like a clear statement of the points of difference between it and the Bill of the Reform Committee, we shall be disappointed if they should hesitate in preferring THE LANCET Bill. The withdrawal of the Bill of the Committee leaves the members of the Association free to consider this great question. The profession will expect the Association, in a matter of such moment, to act independently, and to choose the best Bill.

THE institution which is known officially as the Royal London Ophthalmic Hospital, and far more generally by the single word "Moorfields," has great claims upon the goodwill both of the profession and of the public. During the sixty-seven years of its existence, and especially during the dark period which preceded the recent development of ophthalmological science, the hospital has served to keep alive an English school of ophthalmic surgery, to impart knowledge to numerous students, to train the hands of a long succession of skilful operators, and, above all, to extend to the poor, from all parts of the United Kingdom, the signal benefit of its aid. At times when the claims of ordinary special hospitals have been tried and found wanting, an exception has usually been made in favour of those devoted to diseases of the eye; and this exception has in great measure rested upon the known and admitted usefulness of the most renowned among their number.

Of late years, however, a very marked change has occurred in the relative position of ophthalmic to other hospitals in the metropolis. It is now considered necessary that every general hospital should have its ophthalmic surgeon, and every medical school its ophthalmic teacher; and hence special ophthalmic departments have sprung up, which collectively outweigh the existing ophthalmic hospitals. There is no longer any plea for the existence of the latter on the ground that diseases of the eye are not perfectly well attended to elsewhere; and, as we have recently had occasion to observe with reference to another branch of the healing art, a specialty that has won its way to a department at every general hospital, may be fairly considered to have outgrown the period at which special hospitals were needed for its encouragement. If we were to-day called upon to consider what pleas could still be urged in favour of London eye hospitals, we should be driven to say that the chief good they do is to save the teachers at general hospitals from being over-burdened with a larger number of patients than can readily be used for the purposes of instructing students. Eye diseases are so extremely prevalent that, if they all went to general hospitals, the mere examination of patients would leave little time for calling the attention of learners to the lessons to be drawn from them. It is very well that a large proportion of the cases should go to special hospitals, where there are few or even no students, and where the surgeons can think chiefly of gaining knowledge and experience for themselves. Thus fortified, they necessarily will become better teachers; and, on this ground, an appointment at a special hospital seems the proper and natural complement of a special office at a general one.

It unfortunately happens that the question does not seem to have presented itself in this light to the authorities at Moorfields, and that there exists there a rule which we conceive to be unsound in principle and highly injurious in its practical application. An assistant-surgeon at Moorfields is under no restrictions; but a full surgeon is prohibited from holding *any other ophthalmic appointment*. He may, as in one well-known instance, be surgeon to a general hospital, or to a special hospital of another kind, or to both; but he must not be ophthalmic surgeon to another hospital, or professor of ophthalmic surgery in a school of medicine. In other words, as soon as he becomes a surgeon at Moorfields, he is debarred from teaching the art in which he is supposed to be especially skilled. In consequence of its recent enlargement, the hospital has now *seven full surgeons*, and all these gentlemen are prohibited from holding offices in which their experience would be available for the purposes of instruction. It is no answer to say that students may go to Moorfields. Students must take the ophthalmic teaching that is provided for them at their own hospitals; and the authorities of these hospitals must take the best teachers they can get, and leave Moorfields in its isolation. At present, in one or two instances, the rule is practically departed from by the aid of some kind of understanding which it is thought best to ignore; but, in the course of a few years, the question will have to be definitively settled with reference to a gentleman whose time for promotion at Moorfields must come in due course, and who, as the rule now stands, would then be called upon to choose between that promotion and his office at a general hospital.

Now it is probably true that the past pre-eminence of Moorfields, and the great value of appointments there, have been in some measure due to the absence of any real rivalry. But it is found, as a rule, that the best road to success in consulting practice is by success in teaching; and we have no doubt that, if London ophthalmic surgeons are compelled to choose between Moorfields and the comparatively new career now offered by every general hospital, the latter will soon carry the day. The best men will be taken away from Finsbury as soon as their time for promotion comes; and only those will remain as full surgeons whose services as teachers are not in requisition. A special hospital feebly officered, and with its feeble officers burdened by the weight

of a traditional supremacy that they were unable to maintain, would have no prospect but that of speedy and ignominious extinction.

The presidency of the Ophthalmic Hospital has lately devolved upon Sir JOHN LUBBOCK, whose cultivated intellect will not fail to appreciate the necessary consequences of adherence to the rule to which we have referred. We trust that his tenure of office may be signalised by the inauguration of a wiser policy than that which has hitherto prevailed. Moorfields has now formidable competitors, against which, as a place of education for students, it cannot for an instant contend. Its proper function is to aid in the training of ophthalmic surgeons of the highest class, but not to fetter them in the use they make of the skill and knowledge they have gained. We are not, and we never have been, advocates for medical pluralities; but we do most earnestly urge the abrogation of a rule that seems to us to be mistaken and almost morally wrong in principle, that is certainly an unmixed evil in practice, and for which we can find no good word, except that it is even too short-sighted to be selfish.

A DISCUSSION at the Clinical Society on the 24th ult., on a case of stricture of the urethra complicated with fistulæ in perineo, led to some interesting remarks on the treatment of stricture as practised in the different metropolitan hospitals, and it was amusing to hear how diverse was the practice of the numerous surgeons present. By the light then thrown upon the subject, let us consider what would be the treatment of a patient who found himself in the streets of London with a tight stricture giving rise to retention of urine, were he to apply to the hospital to which he happened to be nearest.

We need hardly say that at every hospital the patient would receive immediate attention, and the best skill the institution afforded in the person of the resident house-surgeon, or, if need be, of the visiting surgeon. The former will of course have formed his practice on the instruction of the latter, and for all practical purposes the treatment may be considered to be the same throughout. Catheterisation is first to be attempted, but then comes the question as to the instrument to be employed. The old wax bougie gave way thirty or forty years ago to the almost exclusive use of the silver catheter; but this, again, has been displaced to some extent by the French elastic catheter or bougie with an olive-shaped bulb at the end. Even catgut bougies appear to be favourite instruments at one London hospital; whilst a filiform elastic bougie was vaunted by one surgeon as warranted to enter any stricture with time and patience. Our own impression is that for moderate strictures the French instruments answer admirably; but that with tight strictures the silver catheter is the most reliable instrument, provided the patient is placed in the recumbent position; and the instrument can then be tied in when once the bladder is reached.

We need not follow our supposititious patient through the troubles of catheterisation, which it is always to be hoped will give relief; but, supposing him not to be relieved, the treatment to be adopted presents as many varieties as there are species of catheters. At one hospital, failing to pass an instrument, the surgeon would puncture the distended bladder through the rectum—a very safe practice, and one which has yielded excellent results, since the stricture immediately expands on the pressure of the urine behind it being relieved. At another, the distended membranous urethra would be opened behind the stricture from the perineum—a successful operation, but not easy in the hands of a tyro. At a third, the surgeon would prefer to perform perineal section, cutting on the end of a catheter and then on through the stricture without a guide—an operation most difficult of accomplishment and by no means free from danger to life, and requiring good assistants, good light, and the very highest surgical skill. On the occasion we refer to, each of these methods found warm supporters, who failed apparently to convert any of their brethren "from the error of his ways."

Even on the question of the treatment of an ordinary stricture of the urethra—whether by gradual dilatation, by forcible dilatation, by caustics, by internal or external urethrotomy—there is, we believe, no such consent among hospital surgeons as to justify the designation of any one method as the English plan of proceeding. We are far from finding fault with this; for cases, patients, and surgeons all have their idiosyncrasies, and it would probably be injurious to all parties were all practice to be brought to one uniform dead level.

Medical Annotations.

"Ne quid nimis."

ROYAL COLLEGE OF PHYSICIANS.

AT the Comitia Extraordinaria, held on Monday last, the election of a President came on; and there was a certain amount of excitement when it became apparent that there was a close run between Sir Jas. Alderson and Dr. Burrows. This resulted, after a second balloting, in the election of Dr. Burrows, who then ascended the chair, and delivered a brief address distinguished by extremely good taste. He reminded the Fellows that in former days he had been among those who had fought the battle for the destruction of the exclusive privileges, as regards the access to the Fellowship, so jealously monopolised by the members of the old Universities; and congratulated the College on the fact that perfectly impartial principles of selection were now accepted as a matter of course. He bespoke the confidence of all the Fellows—those who had voted against him, as well as those who had voted for him—in his desire to maintain the most friendly relations with the whole body; and he predicted a prosperous and increasingly useful future for the College.

Sir James Alderson, in the early part of the meeting, had delivered the annual Presidential Address, which consisted of a recital of the principal events connected with the College, both as to its internal affairs and as to its relations to general medical politics, that have occurred in the past year. After the election of Dr. Burrows, Dr. West, the senior censor, moved a resolution, cordially expressing the thanks of the Fellows to Sir James for the conscientious manner in which he had, for four years, performed the presidential duties; expressing also their sense of his high character as a gentleman, a scholar, and a man of science, and their appreciation of the kindly courtesy with which he had treated everyone with whom his office brought him

into contact. This was seconded; and, after a few hearty words of support from the new president, was carried by acclamation.

A somewhat important discussion was raised by Dr. Buchanan, when the recommendation of Council for a new bye-law, as to the evidence of clinical study to be given by candidates for the licence, came on for enactment a second time. The intention of the new bye-law was acknowledged to be excellent. It provided that the student must serve a three months' clinical clerkship, and a similar dressership, in a "recognised" hospital. Dr. Buchanan pointed out that in some important medical schools attached to comparatively small hospitals it was found impossible to provide all the students with these appointments; and, on the other hand, it was found that a good clinical class, through which everyone was obliged to pass, fully answered all the ends of a formal clerkship or dressership. He moved an amendment in the sense of offering to the student various efficient alternatives to the formal holding of these offices in a "recognised" hospital. This amendment was lost, after Dr. Pitman had explained that there were a great many "recognised" hospitals besides those to which medical schools were attached; and that it would be easy, and also useful, for the students who could not obtain office at their own schools, to spend some few months in holding the resident offices of one or other of these institutions. The whole subject is of much importance, and we shall shortly return to its discussion.

A NEW PHASE OF JOURNALISM.

THE piratical customs of American publishers have been so generally condemned in this country, that we hardly expected to find an English periodical with sufficient hardihood to render to them the subtle flattery of imitation. It appears, however, that the *British Medical Journal* has obtained a leading article, as the Berkshire chapman did his brooms, "ready made," from the pages of the *Philadelphia Medical Times*. In the issue of that publication for the 15th ult., a prominent place is given to the following announcement:—

"JOURNALISTIC DEBTS.—In publishing, as we did at p. 143, in the number of the *Medical Times* for January 16th, a translation of the discussion between Dr. Hartsen and Professor Virchow, on the 'propriety of the marriages of consumptives,' which has lately appeared in Virchow's *Archives*, we felt that we were doing a good service in bringing before the profession the opinions of so eminent a pathologist as Virchow on such an important question. We were led to believe that we had not been mistaken by the expressions of interest of some of our most valued subscribers. But the most assuring proof was afforded us by finding in the *British Medical Journal*, for February 4th, our entire translation copied *verbatim et literatim*. No! we are mistaken. We had carelessly allowed the error 'sequal' for 'sexual' to pass us uncorrected in the proof, and we are glad to see that the proof reader of our contemporary has detected our inaccuracy. What especially attracted our attention, however, was the fact that our translation appears as the chief leading article in that issue of the *British Medical Journal*, and that, too, without either a word of acknowledgment to us, or even the statement that the article is a literal translation at all. There should never be any hesitation in borrowing whatever we want from such a friendly source as the pages of any contemporary journal; but it is well, in doing so, to sign an I.O.U. for the value received."

The above statement seemed at first sight so amazing, that we were impelled to the labour of testing its truth by personal inspection. The facts are precisely as set forth. A translation from Virchow's *Archiv*, published in the *Philadelphia Medical Times*, was made to do duty as the first leading article in the *British Medical Journal*. Without a word of acknowledgment it was copied, comma for comma, word for word, line for line; and it was so put forth as to bear the appearance of being the *British Medical Journal's* own summary of the controversy to which it relates.

Might not the Reform Committee, and the Committee of Council, and the other Protean manifestations of the ruling junta of the Association, advantageously abate somewhat of their devotion to public business, and try to find time to control matters that more immediately concern them?

THE METROPOLIS WATER BILL.

Is the Government in earnest about this Bill? We are afraid to say how many times it has appeared in the Orders of the Day of the House of Commons, and now its second reading—the crucial test for a Bill—is postponed till after the Easter recess. Meanwhile the opponents of the Bill are gaining time to mature their plans, and are striving by petitions to impress Parliament with the idea that the measure is obnoxious. So it is—to the Water Companies; but we should argue from this that there was all the more necessity for the Bill to pass. The Water Companies of London have hitherto had their own way entirely with the metropolitan consumers, and we know what on certain occasions has been the result. Every dog, the proverb says, has his day, and it cannot be doubted that it is high time for the London water-drinker to verify experimentally the truth of the adage.

Of course, the usual cuckoo-cry of "vested interests" is raised to excite the apprehensions of shareholding legislators, who, we hope, will nevertheless not allow private considerations to stand in the way of public advantage. It is worthy of note that one London sanitary authority, the Westminster District Board of Works, has petitioned against the Bill, giving as a reason for doing so that the purchase of the Water Companies' interests by the Metropolitan Board will involve "an enormous and unnecessary expense," and seeking to frighten ratepayers by making it appear that the simple provision in the Bill authorising the Board to increase the water-rates, if they are found insufficient, is less a possible contingency than a positive certainty. The clause directing the application of surplus revenue to the reduction of the water-rates is, naturally enough, ignored by these adverse petitioners. No doubt it is open to the Metropolitan Board, when it acquires the powers of supply, so to mismanage matters as that an increased charge may occasionally have to be met; but it has to be remembered that many large cities and towns have found by experience that it is an advantage in an economical point of view for the water-supply to be in the hands of the municipality rather than of commercial companies.

If it were worth while to argue the case with the Westminster District Board of Works, there would be little difficulty in proving that, as a mere question of pounds, shillings, and pence, expenditure incurred in adapting the existing supply apparatus to the requirements of the constant system would eventually more than repay itself by improving the health of that large class which suffers most from the intermittent system, and so lessening the burden which the sickness of this class entails upon the ratepayers. We are glad to find that the Metropolitan Board has, by a majority of twenty to seven, re-affirmed the principles which the Bill embodies; and have determined upon taking measures for maintaining the clauses which give them the power of acquiring the rights of supply.

We have no hesitation in saying that our water-supply ought to be in the hands of those who have control over our drainage system, the two services being so intimately related; and that as we do not hand over the latter to

private speculation, so we ought not the former. The Government have recognised this principle by bringing forward the Bill now before Parliament, and it would almost seem as if they meant to be content with this, by the way in which the Bill has been postponed from time to time. The second reading now stands for the 17th of April, and we trust that an effort will then be made to make progress, so as to give reasonable hope of the Bill becoming law before the session terminates.

CONCURRENCE OF ACUTE SPECIFIC DISEASES.

AN interesting discussion of a very practical nature took place on Monday evening, at the Medical Society of London, upon the question of the concurrence, at or about the same time, and in the same patient, of two acute specific diseases. Dr. Brunton narrated the particulars of two cases in which, in the one instance measles (as indicated not only by the features of the eruption itself, but by the time of its incidence, subsequent to the occurrence of constitutional symptoms of the usual kind), and in the other scarlatina, running its ordinary course of development, was noticed to be coincident with the manifestation of variola, the eruption of the latter being however somewhat delayed by the measles and the scarlatina. Three points were elicited by the discussion,—the first, that undoubtedly two acute specific diseases might occur together; the second, that more facts were needed to enable us to state with precision the frequency of such concurrence, and the relative influences exerted the one upon the other by the concurring diseases; and, lastly, that in making a diagnosis great care ought to be taken to ascertain whether the course run by the supposed scarlatina and measles was, as regards not only the eruptive phenomena but the general symptoms, quite typical and characteristic, otherwise it could not confidently be averred that the disease was measles or scarlatina. But it was abundantly proved, and this fact was stated prominently by several speakers as having occurred in their own experience, that the mere fact of a rash preceding the development of variola, having the character of measles on the one hand, or of scarlatina on the other, was no proof that these two diseases were present in addition to the variola; for the antecedent roseola variolosa often presented deceptive characters of the kind; but then the related general phenomena, and the sequence of concomitant events characteristic of the two diseases named, were absent.

THE METHODS OF DISINFECTION USED IN THE ARMY.

WE perceive that a circular has just been issued by the War Office as to the method of procedure in the case of infected bedding, clothing, &c. As we are frequently applied to, and have more than once ourselves furnished information on this subject, our readers may be interested in learning what are to be the processes adopted by army medical officers. Whenever hospital bedding or clothing has been used by patients affected with specific fevers of infectious character, the hair of the mattress, &c., is to be opened out, exposed to the air, and beaten, and, when practicable, submitted to a dry heat of 250° Fahr.; the remainder of the bedding as well as all the clothing, if not liable to be injured by the process, is to be boiled, or where this cannot be done, steeped in boiling water, and, in the latter case, the materials are to be chemically disinfected, in addition to being exposed to the air and washed, before being used. We may remark, *en passant*, that an ordinary oven can be used for procuring the dry heat, except that the association suggested is not altogether a pleasant one perhaps. The articles of a soldier's kit that cannot be treated in the manner above are to be taken to hospital, fumigated, and exposed to the air and sun for a week. The straw of the barrack bedding is directed to be burnt, and the remainder, with the clothing belonging to the patients, but not actually in use by them, is, if not liable to injury, to be steeped in boiling water, exposed to the air, and washed without removal to hospital.

The barrack-room in which the disease occurred is, whenever considered advisable, to be vacated, thoroughly cleansed, and left unoccupied, with the windows open, as long as possible. Whenever it is thought necessary to fumigate the room in addition to these measures, it is to be done with the aid of chlorine gas, or nitrous acid or sulphurous acid gas.

THE EPIDEMIC OF RELAPSING FEVER.

THE meeting of the Epidemiological Society on the 12th inst. is to be devoted to a consideration of the epidemic of relapsing fever which still prevails to a greater or less extent in some of the larger towns. This malady has almost been lost sight of in the absorbing attention which has been given to the small-pox outbreak; and it is well that the regard of the profession should be again awakened to it. There are several features of the outbreak of exceptional interest; and it may be anticipated that some light will be thrown upon the obscure question of its beginning and course by the papers to be read on Wednesday next. The two inspectors of public health (Dr. Buchanan and Mr. J. Netten Radcliffe), both of whom, as may be surmised, have especial knowledge of the epidemic, and the able and experienced medical officers of health for Merthyr Tydfil and for Leeds (Mr. T. S. Dyke and Dr. Robinson), will contribute the materials which are to form the groundwork for discussion. The Society invites the attendance of all medical men who take an interest in the subject.

THE MEDICAL REGISTER.

WE are glad to learn that steps have been taken by the Executive Committee of the General Medical Council to reduce the annual expense of publishing the Medical Register. On consultation with Mr. Greg, the Comptroller of her Majesty's Stationery Office, it was found that the price paid to Mr. Kelly, the present printer, was considerably higher than that paid for work of equal quality executed for the Stationery Office. Mr. Greg suggested a reduction in the breadth of the page of the Register, which would be economical without detracting from the appearance of the book or facility of reference. For the future the expense of 3000 copies, binding included, will be £426 8s. for the first year, and £336 8s. for succeeding years. The amount paid by the Council last year for 3000 copies, including £91 for rent of type, was £609 14s. 6d. The new arrangement will come into force with the Register of 1872, notice having been given to terminate the existing contract.

THE LICENSING BILL.

THE Home Secretary had a field night in the House of Commons on Monday last, and he may be congratulated upon having produced a measure which, taking into account the magnitude of the interests involved, and the inherent difficulties of the subject, deserves commendation as an important step in the right direction. We are especially glad to see that an attempt is to be made to put a stop to adulterations in the liquor trade. The Bill provides that samples of liquor may be taken by the inspectors and duly tested, arrangements having been made for the conduct of analyses at the Revenue laboratory, Somerset

House. For the first offence under this head a heavy fine is imposed, with imprisonment at the option of the magistrate; and, for a second offence, a still heavier fine, together with the deprivation of licence. There is little doubt, as Mr. Bruce says, that the enforcement of these provisions against adulteration will greatly reduce the number of the worst class of liquor sellers, who thrive from no other cause than that the deteriorated quality of the article they sell enables them to set it at a low value, and thus acquire large custom amongst the poor. It will be no trifling gain if this result be accomplished by Mr. Bruce's Bill.

MEDICAL ARRANGEMENTS FOR THE BRIGHTON REVIEW.

THE interesting novelty arising out of the experience of the late war will fail to make its appearance at the Brighton Review, spite of its precipitate announcement in a contemporary. Setting aside the fact that it was improbable that the War Office would supersede, as it were, the medical officers of the Volunteer service by taking the medical arrangements out of their hands, it was hardly to be supposed that it would incur the very unnecessary expense of sending down horses and drivers for six ambulance-waggons for the purpose of letting them gallop about the field, under the direction of the Secretary to the Aid Society, with an army medical officer in medical charge. To make the matter complete, it has been suggested to us that some of the ambulance corps should have been provided with large pots of red paint to mark the men intended to act the part of wounded soldiers; for we can scarcely imagine that nearly fifty Volunteers should be so injured during the review as to require wheeled transport for their removal from the field, otherwise Volunteer regiments must be very dangerous to one another. The fact is simply that which we announced last week—namely, that Surgeon J. Cordy Burrows, of the 1st Brigade Sussex Volunteer Artillery, will, as on previous occasions, act as principal medical officer in charge of the hospital arrangements at Brighton. The War Office, having appointed him to that post, has, wisely, as we think, left the matter in his hands, with an intimation that he can make a requisition on the principal medical officer at Dover for anything deemed necessary.

A DISGRACEFUL FALL.

A MELANCHOLY example of departure from that high standard of moral rectitude which is the boast of the medical profession in England, has unfortunately occurred during the past week, and cannot be passed over in silence. Frederick Henry Morris, of Swindon, who holds the M.D. degree of St. Andrews, and is M.R.C.S. England, has been convicted of committing an indecent assault upon a respectable young woman, and has been sentenced to six months' imprisonment. Mr. Justice Byles, in passing sentence, very justly remarked:—"I am well aware that the sentence which I am about to pass upon you is the least of the evil consequences which will result from this transaction. Your noble and honourable profession has had a blot cast upon it by your conduct."

We cordially re-echo the sentiment of Mr. Justice Byles' remarks. The profession at large suffers by the evildoing of one of its members, and it is well that the public should know that not only is the convict in such a case visited with the contempt of all his brother practitioners, but that the sentence will carry with it the loss of all corporate rights, since immediate steps will no doubt be taken by the corporations of which he is an unworthy member, to have the name of F. H. Morris removed from the Medical Register. It may seem hard that one failure should thus deprive a man of the means of gaining a livelihood; but it is impossible that the roll of practitioners can be too strictly kept, and for the sake of the profession at large no mercy can be shown to erring individuals.

DRUNKARDS AND THE POLICE.

WE do not know whether the importunity which prevailed over the unjust judge will ultimately have the same effect upon the chief authorities of the police; but, on the basis of hope afforded by the scriptural narrative, we must still continue to call attention to the deaths of real or supposed drunkards in the cells. We read in the *North British Daily Mail*, of the 30th instant, a brief account of one of the usual cases, which occurred this time at Glasgow. A boy of fifteen is said to have been brought from St. Enoch's-wynd to the Court-house Police-office (a distance of about half a mile), "for being drunk." This was in the "afternoon"; and he remained at the police-office, in an unconscious state, until 9 P.M. Then he was removed to another police-office, a quarter of a mile from the first; and only upon his arrival was a doctor sent for to see him. In spite of the doctor's attentions he died there on the following afternoon. Surely even a policeman might be made to understand that alcohol is a poison; and that, in a young lad, drunken stupor implies no small danger of death.

THE BABY-FARMING BILL.

THE deputation of promoters of the Bill for the Better Protection of Infant Life have met with scant encouragement from the President of the Poor-law Board, who told them that there were grave objections to the very extensive system of registration and supervision involved in the licensing of nurses and in making the system applicable to all women who took children to nurse in order to prevent abuses by bad women. This is so exactly what would occur to the minds of most persons on perusing the Bill, that we can only suppose the willingness of its promoters that it should be referred to a Select Committee to have arisen from a gradual perception on their parts of the utter hopelessness of attempting to pass the Bill as it stands. A minute registry of names and frequent periodical reports to a central authority, the Poor-law Board, are requirements far in excess of what is really necessary—namely, a discretionary power vested in medical officers of health to exercise surveillance over all baby-farms within their respective districts. The notion of compelling everybody who takes a child to nurse to obtain a licence, and to submit to a monthly visit of inspection from the parish doctor, is simply preposterous.

PROTECTION FROM THE LAUNDRESS.

Apropos of a case heard at Worship-street, on Saturday last, in which a gentleman summoned his laundress, under the Infectious Diseases Act, for washing his linen, and that of many others, in an establishment where a case of small-pox was present, we would make a few comments, and a practical suggestion. Setting aside ignorance and carelessness about consequences on the part of laundresses, we ought not to forget that the exercise of care in such cases often means a conflict with self-interest, at a time when the presence of sickness renders the loss of money, perhaps, unusually inconvenient and distressing. We are not saying that this justifies, for nothing can justify, the exposure of numbers of people to the risk of contagion; but we desire to indicate that the temptation to disregard the danger is great. Now nearly all this might be avoided, as it seems to us, if only an ade-

quate system of public wash-houses were introduced in cities and large towns, with appurtenances for drying, getting up, and disinfecting linen, together with some arrangement by which the women employed could have their children taken care of during the time they were from home. At such establishments all linen from infected sources could be kept separate until removed to the place where they could be subjected to disinfection—by dry heat, boiling, or by chemicals. These institutions might of course be placed under periodical inspection, in order to ensure that the sanitary and other arrangements were effectually carried out. By this, or some other method similar in principle, the health and comfort of many poor respectable people would be preserved by the removal of dirty clothes, foul water and soap-suds, and drying linen from their households, and the risk of infection to families at present receiving their clothes after having them washed and dried in badly ventilated rooms, situated often in infected localities, would be reduced to a minimum.

MR. CHILDERS.

THE late First Lord left London on Tuesday evening for the Hague, *vid* Harwich and Rotterdam. At a consultation held between Dr. Gull and Mr. Robert Ellis just prior to his departure, it was decided that he should ascend the Rhine by short and easy days of travelling. His ultimate destination for the present will probably be either Florence or Vienna. After a few weeks' enjoyment of the early spring in Italy, he has been advised to make trial of the baths of Bonnio as soon as the bathing season commences. The medical opinion as to his present state and future prospect of restored and uninjured health remains exactly as before. There is, in fact, every human probability of his complete recovery. A slight attack of sciatica interferes for the present with his power of taking much walking exercise.

CORPORAL PUNISHMENT IN THE NAVY.

FROM a return just made to Parliament we learn that during the years 1867, 1868, and 1869 corporal punishment was inflicted on 238 sailors, 66 marines, and 4 boys. Of these punishments only 30 were inflicted by order of court-martial, the remainder being summary punishments ordered by the commanding officer. The number of lashes is not stated in the return, but it is satisfactory to know that the hundreds of by-gone days are now limited to forty-eight, and that no punishment can be inflicted within twenty-four hours of the commission of the crime. Still in the cause of humanity, and for the popularity of the naval service, we hope to see the total abolition of the lash, at least in peace time.

SANITARY CONDITION OF LEICESTER.

DR. CRANE has just issued his annual Report on the Sanitary Condition of the Town of Leicester for the year 1870. There have been severe epidemics of scarlet fever and diarrhœa, and the general mortality was 27,374, as compared with 25,125 the year before. The increase has occurred from the deaths of children under five years of age. No less than one-seventh of the whole number of deaths were uncertified, or only certified by unqualified practitioners. There were 263 deaths from scarlet fever, all except 17 having occurred in the latter half of the year. The epidemic appears to have pursued its natural course, no means of isolating the cases having been provided. Dr. Crane expresses the hope that the proposal to establish a hospital for contagious diseases will meet with the support of all classes. There was a decline in the deaths from diarrhœa; all but 4 were either in children under four years of age or in persons over sixty. Dr. Crane does not attribute the reduction on this head to any sanitary improvements, for he observes that the summer was unusually hot, and the sewers were less completely flushed than formerly. The deaths from infantile convulsions are increasing yearly, and indicate "a further deterioration in the stamina and hygiene of the infantile part of the population." For all inhabitants above five years of age Dr. Crane believes Leicester to be one of the healthiest large towns in the kingdom.

COST AND RESULTS OF DRUNKENNESS.

IT is calculated from the official returns of the police and relief authorities in Liverpool that every public-house makes ten paupers annually; that every ten public-houses employ a policeman; that every public-house sends eight persons to the police-court annually; that every public-house costs the public £160 per annum; and that the expenditure on drink would supply the people with a fresh Sefton-park every year.

THE LOCAL GOVERNMENT BILL.

MR. GOSCHEN has redeemed the promise of the Government that steps should be taken during the present session to give effect to the recommendations of the Royal Sanitary Commission, or such of them as it was found practicable to deal with. The nature and extent of the Government propositions we shall have ample opportunity for considering when the Bill itself is before us, which will, no doubt, be in the course of a few days.

ON Wednesday, the 29th ult., Mr. Gay tied the subclavian artery, at the Great Northern Hospital, in a patient suffering from large axillary aneurism. The patient was, we are glad to hear, doing well a week after the operation. This makes the third instance of ligature of the subclavian (a somewhat rare operation) in the hospitals of London within the last few weeks, Sir William Fergusson and Mr. Maunder having been the operators in the other cases.

WE see by the business-paper of the House of Commons that on Monday evening a copy was presented of the Thirteenth Report of the Medical Officer of the Privy Council (for 1870). This is probably a mere form, as we have no anticipation that the report will be issued for some time yet.

MR. JULIAN GOLDSMID, M.P., has just presented £1000 to the University of London, to be paid in annual instalments distributed over ten years, towards the formation of a good classical library in the new building. The Senate have accepted the offer with a due acknowledgment of its generosity.

THE population of Cape Town has, for some years, been liable to outbreaks of fever, and we understand that at the present time it is very prevalent among the poorer classes inhabiting the more crowded districts of the town, which, according to all accounts, are in a very insanitary condition.

THE Tavistock Board of Guardians have agreed, subject to approval of the Poor-law Board, to increase their subscription to the South Devon Hospital from £2 2s. to £10. This example needs imitation.

THE students at Guy's Hospital have resolved to present a testimonial to Mr. Cock on his retirement from the office of senior surgeon to the hospital.

OPENING OF THE SUMMER TERM AT NETLEY.

THE twenty-second session of the Army Medical School, Netley, was opened on the 3rd instant under novel circumstances. Thirty-six candidates for commissions in the Medical Department of the Army, who obtained their places by open competition, in an examination held during the month of February by the Government Examiners in the new examination hall of the Univeraity of London, and extending over an entire week, entered on their probationary course of instruction on Monday. The novel feature this term was the appearance on the benches of the lecture theatre, side by side with their brethren of the army, of seventeen young naval assistant-surgeons, who passed their examinations at the same time before the same examining board.

The introductory address was delivered by Professor MACLEAN, who gave a cordial welcome to the new-comers, and declared that, at last, in the eleventh year of the existence of the Army Medical School, the intentions of those who advised her Majesty's Government to establish it had been carried out in their fulness, for now the aspirants for commissions in the British, Indian, and Naval services are placed on the same footing, and will in future receive the special instruction deemed necessary for the effective discharge of their duties in the same school, "which," Dr. Maclean added, "is henceforth in reality, if not yet in name, a United Service Medical School." The lecturer went on to say that the scheme, so strongly advocated by some, of establishing a separate school for naval medical officers, although urged by some whose opinion was entitled to respect, always appeared to him unreasonable, and open to the objection that it would be alike a waste of power and money. There was not a lesson given by Dr. Parkes, at Netley, on air, ventilation, water, food, or clothing, that might not be applied in preserving the health of the sailor as well as that of the soldier. It was also shown that the teaching on pathology, military medicine and surgery was calculated to be as useful to naval as to military surgeons. Dr. Maclean added that, ere long, a naval medical officer of rank and experience, well known in the scientific world, will be added to the staff of professors, who will supply what is wanted in the specialties of naval medical service. The lecturer showed how much, in the wars in which England has taken part of late years, a "naval brigade" has been employed, and drew from this fact an additional argument for teaching naval surgeons the most approved methods of aiding the wounded on the field of battle, the organisation and administration of field hospitals, and the land transport of sick and wounded soldiers. Dr. Maclean pointed to the fact, that at no time in modern history was a school of this kind more needed than now. He adverted to the great wars that have been waged within the last few years, in spite of all the anticipations and fond hopes of those who believed that the time had come when men "should hang the trumpet in the hall, and study war no more." Pointing to the unsettled state of some of the most civilised parts of Europe, he bade the young men before him prepare to play their part worthily in any struggle in which their country may have to engage in defence of her soil, her foreign possessions, or her treaty obligations, by turning to the best account the means so liberally provided by Her Majesty's Government for their instruction. Dr. Maclean, adverting to the universal desire on the part of almost all civilised nations to mitigate the sufferings of the victims of war, and to what had been done by England in this direction in the late war, expressed his regret that the sound advice given by his colleague, Professor Longmore, to organise in England, *in time of peace*, a plan for giving a thoroughly practical direction to this humane and Christian work, and to bring it into harmony with the military medical systems of the armies engaged, had not hitherto been acted on. The Professor added a hope that the experience of the last war had served to convince those in our ranks who formerly professed to doubt it, that, without this extraneous aid, it is impossible for any establishment of purely military surgeons at all likely to be kept up in time of peace, at home or abroad, to meet the requirements of modern war. "Let us, therefore," added the speaker, "cease to make any such futile pretensions, and show our good sense by being prepared to welcome such indispensable aid, and to turn it to the best account, by as far as possible bringing it into cordial harmony with our system and methods." Dr. Maclean dwelt in terms of warm commendation on the bright example set by the heads of our profession in Germany, who placed their splendid talents, valuable time, and great experience, at the service of their country, and expressed a belief that, ere long, we shall all be made partakers in those rich stores of knowledge doubtless acquired by those keen observers. Dr. Maclean then went on to say, that war was, fortunately, only an exceptional thing, and that the duties and responsibilities of military and naval medical officers in times of peace were quite as worthy of their attention; and concluded by once more giving a cordial welcome to the young officers before him, and an assurance that the professors of the Army Medical School would do their utmost to make their stay at Netley profitable and agreeable.

After a few words from Colonel Gordon, Sir Galbraith Logan, K.C.B., Director-General of the Medical Department of the Army, thanked Professor Maclean in warm terms for his address, and after a touching allusion to the death of Count Wollowicz, who died at Netley some months ago, Sir Galbraith congratulated the gentlemen on the successful termination of their examinations in London, and expressed a hope that they would continue to work in the future as they had done in the past. Dr. Armstrong, Director-General of the Medical Department of the Navy, added a few kind words, and the visitors adjourned to luncheon in the mess house.

The lecture theatre was crowded with a large audience, including all the staff of the Royal Victoria Hospital, the Directors-General of the Medical Departments of the Army and Navy, Major-General Maclean, Colonel Innes, Mr. Bevan, and many others.

THE SMALL-POX EPIDEMIC.

PROGRESS OF THE EPIDEMIC.

AT present there seems little abatement either in the number of persons attacked by small-pox or in the severe type of the disease. The deaths in the metropolis last week were 192. The hospitals at Homerton are quite full, and several cases of a malignant character have been admitted from Shoreditch, Bethnal-green, and Poplar. It is still unfortunate that there are no positive returns of fresh cases, and it is to be hoped that the Metropolitan Asylums Board will take steps to ascertain the number attended by the Poor-law medical officers, as such a return would give the earliest indication of the subsidence of the epidemic, and relieve the public anxiety at the earliest possible moment. The total number of deaths from small-pox during the last thirteen weeks is 2400, representing not less than 16,000 persons who have been attacked, very many of whom are still incapacitated for work. Evidently there should be no relaxation in the efforts to promote vaccination and revaccination, and it may even be necessary to be prepared with further means of isolation. We are at a loss to know how it is that there is so much apathy as regards removing the patients to hospital, seeing that there has been room during the past week both at Hampstead and Stockwell. But certain it is that too many patients are still treated in dwellings where it is altogether impossible to prevent contagion spreading. It is under such anxiety and doubt that a real sanitary authority would be of incalculable value; indeed, without it it can scarcely be expected that the public will be entirely satisfied that all that is possible has been done; in fact, we cannot see that the authorities themselves can act intelligently without such information.

VALUE OF REVACCINATION.

Not a single revaccinated person has been admitted to the Small-pox Hospital at Homerton, and no death of a vaccinated person has occurred under seventeen years of age. This affords additional evidence of the protective power of even imperfect vaccination up to the age of puberty, and of the necessity for revaccination about that time.

CHOLERA IN ST. PETERSBURG.

CHOLERA, which had wellnigh died out in St. Petersburg at the commencement of the present year, has again become active in that city, and has occasioned great alarm among the population, not only from the acuteness of the cases, but also from its having proved fatal, after a few hours' illness to Prince George of Oldenburg, a young man twenty-three years of age, to the household chaplain of Grand Duke Constantine, and to several attendants in the Winter Palace and in the palace of the Hereditary Grand Duke. It would appear that the epidemic has never entirely ceased since it broke out in the city on the 29th of August last. Occasional cases occurred throughout the whole of January and February, and the revived activity of the disease in March is attributed chiefly to the great severity of the prolonged fast then observed. The number of cases under treatment, according to the official returns, on the 20th of March, was 231 (135 males and 96 females), and in the course of that day the number of new cases admitted was 98 (60 males and 38 females), the deaths amounting to 42 (19 males and 23 females).

It may be recalled here that the present epidemic of cholera in Russia was first notified in December, 1869. In the course of that month the disease had appeared in Oral, the government of Smolensk, and in the city of Moscow. During the earlier months of 1870, the malady prevailed slightly in the localities named; but in July and August it spread widely in the South-eastern districts of Russia in Europe, and throughout the autumn it was more or less prevalent in many of the Russian ports of the Black Sea. On August 29th, 1870, as already stated, the epidemic appeared in St. Petersburg, and the following official return of the movement of the epidemic in that city, from the date given to March 21st, 1871, has been published.

	Males.	Females.	Total.
Cases	1389	633	2022
Recoveries.....	603	260	863
Deaths	596	258	854

Correspondence.

"Audi alteram partem."

SCIENTIFIC THERAPEUTICS.

To the Editor of THE LANCET.

SIR,—Although some time has elapsed since you honoured me with an editorial criticism on a lecture of mine, published in your journal, I would, with your permission, upon my first leisure, ask to say a few words in further explanation of the views therein unfolded, as I think it very possible, from the tone of your comments, that they have been in part misunderstood. I should wish these remarks to apply also to the criticism of the *Practitioner*, as that journal is one not fitted for controversy.

I would say, in the first place, that I entirely disown any sympathy with those persons who, under the cry "practical," ignore all scientific medicine. I am quite in accord with the distinguished editor of the *Practitioner* in wishing to promote a rational treatment of disease, for on its accomplishment all quackery would cease; and I may further state that it is the subject which above all others most interests me. Were I to appeal to my class, they would corroborate my statement as to how large a part of the conversation at the bedside embraces therapeutics; and did I ask those gentlemen who, former pupils of Bright and Addison (honoured names quoted by the editor), occasionally visit our wards, they would certainly declare that these eminent teachers did no more than dictate a prescription for their patients. What medicine should be given and why preferred is always now a subject for open deliberation, but never in former times. The insinuation, therefore, that I may discuss the nature of the disease but leave unheeded the question of treatment, I altogether repudiate as untrue. An easy method to disable an antagonist is to declare that he knows nothing at all of the subject on which he is talking; but I cannot allow such a mode of warfare to be carried on in my case. The foundation of our therapeutical system must necessarily have caused me much thought, and therefore the opinions expressed in my lecture must be considered as the result of my matured and deliberate judgment.

I can well imagine that the editor of a journal devoted to the advance of scientific therapeutics must have felt something like a pang of grief when he rose from the perusal of my lecture; and yet, I think, on further reflection, we need not be found so very far apart. He might have overlooked the fact that, under the term "scientific," was not meant a truly scientific method, for that of course could not be gainsaid, but the so-called scientific therapeutics of the day; it is this alone which I discard. If the editor can furnish his readers with rules of treatment which the majority of the profession or the *élite* of the profession can endorse, this would be something tangible for the weaker brethren to follow, and the method might possibly be termed scientific. But at the present time, amongst my many friends who could readily answer my statements from their own point of view, I know that no two would agree in their objections. I could wish for no better corroboration of my statements than half a dozen essays in reply. You yourself, Sir, speak of pneumonia as if the treatment of this condition was fixed, whereas we surely see the old antiphlogistic plan still in vogue—we witness the expectant plan of Hughes Bennett, and we certainly have not done with the brandy method; the latter, indeed, being supported by two theories, the one that the stimulant sustains the patient during the progress of a lowering disease, the other that, by checking cell-growth, it is diminishing a superabundant vitality. I wish very much that you had stated what objects you have in view in your treatment of pneumonia, and on what scientific principles those medical men act who cure most patients of this affection. I suppose it is a hard saying to declare that we have often no indications of treatment, and can do little more than treat the disease by adopting a uniform method which experience has shown us to be a wise one. I judge so, because when Professor Gairdner, unsatisfied with the varied treatment of fever, put all his patients on milk diet, and showed a better average of cures than before, his hearers only assented in part; "they had no doubt the treatment was good in many cases, *but* there were instances in which it would not do"; and thus the very gist of the Professor's argument was ignored.

If there is any doubt about the meaning of my views, I would repeat that, having no objection of course to truly scientific methods, I do find that the best treatment in vogue at the present day is that which experience alone has taught us to be useful; and, on the contrary, that which is founded on theory or suggested by our imperfect knowledge is worse than harmless, since it stands in the way of more successful methods. If the editor of the *Practitioner* will look back on the cases which he has seen during the past week, and think of the treatment they have undergone in the hands of men who have acted on theoretical or *à priori* principles, and if, on the other hand, he should think, as I do now, of the difficult cases conducted to a successful issue by wise practitioners, and contemplate the very different events if they had been in the hands of meddling and theoretical men, he can scarcely disagree with me. In reflecting on what I have seen this day, and taking the first—a case of consumption—I might fairly ask the editor what he would have me teach my pupils. Shall I say this disease has its origin in tubercles, and our first object being to remove these, or prevent their further development, I must therefore inform the class that Dr. Churchill has unhesitatingly recommended hyperphosphites for the purpose, and Dr. Dobell pancreatic emulsion? Or, supposing I have no faith in these antidotes, shall I teach that the symptoms alone can be treated, and then recommend the inhalation of vapours for the laryngeal troubles, pepsine wine for the indigestion, and any medicine which cannot be found in the Pharmacopœia for every other individual symptom? If I have no faith in any of these methods, and my patient informs me that he is willing to follow my advice, I may prescribe; and if I have found from experience that by changing the patient's whole circumstances of life, as by sending him on a sea voyage, the disease may be arrested, why should I

not teach this to my pupils rather than instil into their minds systems founded on unproved theories? Taking my next patient, I cannot see how the editor could draw from it any other moral than I did. A little girl, an idiot, was ordered by a highly respectable medical man in London to take oil and phosphoric acid, at which the father expressed much pleasure, for he had been informed that these were the elements which composed the substance of the brain. Surely this folly was harmful, for it diverted the attention of the parents from the moral means of improving the child's intellect, whilst endeavouring to develop the hippocampus minor or some other convolution. A third patient, a gentleman suffering from spasmodic asthma, and who had consulted many eminent medical men without relief, obtained at last immense benefit from an old country doctor, who declared that the proper treatment in such cases was to attack the digestive organs, and he accordingly prescribed colocynth and blue pill, to the great advantage of his patient. Surely this was a simple bit of experience, probably possessed by others, but allowed to be overridden by thoughts of muscular spasm of the bronchial tubes, and the appropriate antispasmodics.

Must one teach all that is propagated by eminent men in the profession? If so, I must declare that it is reasonable to give salines in feverish conditions, because Dr. Richardson says that a salt during solution renders heat latent (to use the old expression), and therefore its cooling effect is evident. I had better, too, in treating of epilepsy, quote the authority of one of the physicians to the institution devoted to its cure, and say, "You will find great satisfaction in giving bromide of potassium in large doses at bedtime, and at the same time ordering brucine twice daily; thereby you ensure the sedative action of the bromide, and the tonic effect of the brucine, on the whole nervous system." Is this so true that it has received the acceptance of the profession, or has it fixed itself so deeply in Dr. Ramskill's own mind that he would decline to prescribe any new remedy that might be recommended this week in your journal? In spite of your allusion to "old women's" treatment, I apprehend that anyone, however ignorant, who had in his hand a remedy for this disease, would possess more power than the whole College of Physicians. Must I again, in prescribing quinine, instead of ordering it empirically, have an eye to the later observations of German inquirers upon its effects on the nervous system, or think, with Dr. Bence Jones, that I may be supplying some deficient quinoidine to the system; or, putting all this aside, judge of its necessity by minor indications? If so, shall I follow the rule of some of the older physicians, and regard a clean tongue as the test for its use, or believe with the moderns that it is one of the best remedies against fever? I confess that, for my own part, I have been giving up the few small theories which I thought were sufficiently safe to be enforced—as, for example, that it was rational to give a purge and diaphoretic in albuminuria; but I omit all mention of a reason now, since Dr. Dickinson has declared the method to be an unscientific one.

It is no doubt true that very many eminent men can give a reason for the faith that is within them; but how do they explain the success of their friends who have an equally strong contrary belief? Thus Dr. Handfield Jones, than whom no one exists in our profession with a more truly scientific spirit, confesses his incapability of understanding the good results which Dr. Graves obtained in fever with the use of antimony. This example of fever shows how scanty must be our notions of morbid processes, and on what *à priori* considerations we act, for, if there was any agreement in the profession, it certainly was to be found in the idea of the injurious effect of a chill to persons labouring under this disease; and I have very little doubt that the editor of the *Practitioner* at one time concurred in the general belief. And yet now we are informed, on good grounds, that the application of cold water and persistent reduction of temperature is the best curative method. Such an example alone is almost sufficient to prove the position I have taken up.

What we want are, not the theories of individuals wrought out in their studies, but fixed principles, obtained by the ordinary scientific rules. The value of these can be judged of by their general acceptance by intelligent men, by the result of their operation when put in practice, and by the internal evidence that they are free from the taints belonging to self-evolved schemes. All truly scientific theories are completely dissociated from the mind of him who has framed them. Man is the "interpreter of nature," and thus, in taking the works of a great philosopher, like Faraday, little of the individual is to be seen. The purer the work and the more of nature in it, the less is the will of man seen. In very many of our medical theories I witness exactly the reverse: the framer of them is intimately associated with them, and with him they sink or fall. I have more than once inwardly condemned a scientific work because the prominent object before the reader's eye has been the author, and my conviction has always been confirmed by the experience of time. I believe this to be a true canon of criticism, and therefore no argument in favour of any particular method of treatment of disease, framed by the fancy, can have any weight with me. And a very large number of our plans are of this kind.

To take up no more of your valuable space, I may repeat that I have nothing to say against any rule generally accepted by the profession, but I do stoutly maintain that the attempt to treat disease on scientific grounds, in the present state of our knowledge, is fraught with great harm, as standing in the way of methods which experience has shown to be advantageous. This conviction, which I have held for some years, is strengthened by about half a dozen fresh examples daily. If the experience of the editor of the *Practitioner* differs from mine, he is to be congratulated; but of this I am sure, that if our experience is at variance, our wishes and inspirations are the same.

I might also add that, in speaking to students of the importance of discovering the origin of the disease, so as to attack the cause, I did not imply that I was not in the habit of treating symptoms in another class of case, for one's ordinary practice would have belied such a statement. It is possible that half the income of the profession is acquired from doctoring persons who are living in an artificial state, and who consider it necessary to be kept in order like a piece of machinery, to be oiled here to-day, and screwed up there to-morrow. These people will not or cannot alter their mode of life; they will not take Abernethy's prescription, "earn a pound a week, and live on it"; and I do not think much harm is done to them by tincture of cardamoms or peppermint-water; but to take real maladies and treat them in this way is convicting oneself of ignorance, or of doing even worse, converting a noble profession into a trade. In keeping to my convictions announced in my lecture, and which, not having been formed in a day, cannot "be snuffed out by an article," I should at the same time be exceedingly grieved did it seem that I was in any way thwarting the good work which the editor of the *Practitioner* has in hand. No one can estimate his researches more highly than myself, or wish him more success.

At the moment of sending this to you the current number of the *Practitioner* appears, with a further critique on my lecture. I see nothing in it which should tend to alter the general tenour of the opinions I have just expressed. All that the learned editor says is worthy of consideration, and I may take another opportunity of discussing some particular points to which he refers, but there is nothing of importance in the article to invalidate my argument.

I am, Sir, your obedient servant,

Grosvenor-street, W., April, 1871. SAMUEL WILKS.

"A RECTIFICATION OF FACTS."

To the Editor of THE LANCET.

SIR,—As an old reformer, and one that cannot be suspected of having any personal interest to forward by being so, I may be allowed to say a few words on the unhappy disputation which now rages in our medical journals, to (in my opinion) the great injury of the profession. I read an article in the *British Medical Journal* of the 25th ult., headed "A Rectification of Facts," commenting in most severe terms on the course taken by you with respect to a Bill introduced into Parliament by Dr. Lush; and as I have also introduced another Bill, I cannot be supposed to be a party to the former measure; therefore anything I may say must be taken as emanating from a strong feeling and desire on

my part to allay the differences that have arisen between two medical journals. The old adage that "hard words don't butter parsnips" should be remembered, as a cause, however pure, good, and sacred, cannot be greatly forwarded by its champion or champions applying to a brother worker in the cause, however mistaken, such unparliamentary language as is used in the article here alluded to. To say that a man is actuated by "rancorous and mendacious motives," is language scarcely suited to English journalism; the words have an American twang, which must grate on an English ear; and further on, when I read "that there was not a shadow of truth in these astounding fabrications"—alluding to the fact that THE LANCET stated that five gentlemen had retired from the Medical Reform Committee of the British Medical Association, when in fact the retiring gentlemen were not members of that Committee, but were members of the Committee of Council—I was much surprised, as every calm-thinking man must allow that a trifling mistake such as THE LANCET made, was one which the most upright-minded journalist might fall into without being called a "fabricator," and certainly cannot justify such a gross attack as that contained in the following sentence:—"*The incessant insult and malicious misrepresentation with which* THE LANCET *attacks them are an odious abuse of journalism, which deserves to be branded in stronger language than we care to employ, and which we leave to the indignant reprobation of the profession.*" I do not know the powers of the writer for invective further than I have read in the article in question, but I trust, for the respectability of his journal, that he will not deem it necessary again to use such language as that he has here thought proper to employ.

I am old enough to remember THE LANCET in its infancy; and I well recollect the difficulties the then Editor had to contend against, and how nobly he fought against the abuses and monopolies that existed in our hospitals and public institutions—not forgetting those in our army and navy,—to the great detriment and injury of the profession; and I am happy to be able to pay a small tribute to departed worth, and to a friend I respected for the great services he rendered to the profession. I trust that THE LANCET may long continue to protect the interests and uphold the dignity of our profession.

I remain, Sir, yours truly,

House of Commons, April, 1871. JOHN BRADY.

OUT-PATIENT HOSPITAL REFORM.

To the Editor of THE LANCET.

SIR,—The Committee which was appointed to inquire into the practicability of effecting any reform in the out-patient administration of our metropolitan charities have at length completed their report, which is now in the hands of the printer. They have also agreed upon certain resolutions to be submitted to a meeting of the profession which is to be held, by the kind permission of the President, at the rooms of the Royal Medical and Chirurgical Society, on Thursday, April 20th, at 8 P.M., when Sir William Fergusson, Bart., will take the chair.

The Committee have further decided to reprint the reports of the several sub-committees on general hospitals, special hospitals, free and provident dispensaries, and Poor-law medical relief. These documents together form a pamphlet of nearly sixty pages. They contain a great deal of most valuable information in regard to the abuses of our present system or systems of medical relief, and the means by which those abuses have been or may be remedied.

I need hardly say that in endeavouring to do their work as completely as possible, and to put the profession and the public in possession of this information, which has been collected with great trouble and labour, the Committee have incurred considerable expense, and I venture to ask you once more to allow me to make this further appeal for help from those especially who have not borne the burden of work which we have willingly done; and I would especially appeal to the mass of general practitioners, inasmuch as the abuses which we seek to remedy affect them far more than they do the staffs of hospitals and dispensaries. The total liability of the Committee at present amounts to about £25, and in order partly to meet this expense the Committee hope that gentlemen wishing for copies of the collected reports and resolutions will not object to send a dozen or more of postage stamps.

The reports may be had by applying to Dr. Stallard, 7, King's-road, Bedford-row; to Dr. Heywood Smith, 2, Portugal-street, Grosvenor-square; or to

Your obedient servant,

27, George-st., Hanover-square, April, 1871. ALFRED MEADOWS.

Medical News.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—The undermentioned gentleman passed his first professional examination on April 4th:—

Fowler, Breame Weston, St. George's.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen passed the primary examination in Anatomy and Physiology at a meeting of the Court of Examiners on April 4th:—

T. H. Colby, Henry Hetley, Henry Ashby, T. D. Paradise, E. J. W. Hicks, F. A. Mahomed, and W. A. Simmonds, Guy's; J. Lambert, J. Hudson, and J. J. Pickles, Leeds; E. Price, L. P. Bateman, and A. Dodson, Birmingham; C. F. H. Kitchen, E. A. Birch, F. W. Jordan, and W. P. Councillor, Manchester; M. C. Hallowes, W. L. Webber, and J. W. Rocket, St. Bartholomew's; G. P. Bell, Hull; F. W. Lewis, Middlesex; G. F. Stack, Charing-cross; F. J. Joynes, King's College; W. H. Bennett, St. George's; L. Williams, St. Thomas's; W. F. Coleman, London.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on March 30th:—

Clark, Frederick, Park-place, Brixton.
De Lisle, Frederick Irving, Guernsey.
Frean, Richard, Middlesex Hospital.
Haines, Alfred Henry, Notting-hill.
Lloyd, William, Carmarthen.
Male, Henry Davis, Yeovil.
Morison, Bentham Paynter, Portslew, Pembroke.
Ward, Walter Alfred, Witney, Oxon.
Wilkes, Charles Benjamin, Gloucester.
Wimberley, Frederick William, Louth, Lincolnshire.

The following gentleman also on the same day passed his first professional examination:—

Elam, Shrosbold, Guy's Hospital.

UNIVERSITY COLLEGE HOSPITAL.—The annual festival of this charity will be held on Wednesday, April 26th next, at Willis's Rooms, King-street, St. James's-square. Dr. Parkes has kindly consented to take the chair.

LITHOGRAPH LIKENESS OF DR. FORBES WINSLOW.—We have received a proof copy of the above, which Mr. George B. Black, of Regent-street, has just added to his series. It is an excellent likeness. The portrait is published for private circulation, and those who desire to possess copies may apply to the artist, 60, The Quadrant, Regent-street.

AT a late meeting of the Guardians of Newry Union the salaries of the dispensary medical officers were increased to £120 a year each.

ON Tuesday, March 21st, a beautifully executed and framed address, together with a purse containing £45, was presented to Mr. Crocker, Surgeon, of Wetherby, on his leaving the town for Bingley, where he has taken the practice of the late Dr. Glendinning.

BABY-FARMING.—In the Manchester case the proceedings before the magistrates ended in the committal of Frances Rogers to the assizes on four distinct charges—namely, wilful murder, attempted murder, obtaining money under false pretences, and the misdemeanour of neglecting to provide proper nourishment for children under her care. The prisoner reserved her defence.

THE Guardians of the Horncastle Union, Lincolnshire, have presented to Mr. Thomas A. Roberts, medical officer of the Tattershall district, the sum of £5, in consideration of extra services rendered during the late prevalence of typhoid fever.—Dr. Willing, medical officer of the Great Wakering district, Rochford Union, Essex, has just been awarded the sum of £11 by the Lords of her Majesty's Privy Council for his meritorious services as public vaccinator of his district. This is the second time he has been similarly rewarded.

Medical Appointments.

BOTHWELL, G. G., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer to the Woolwich Union Workhouse at Plumstead.

BROWN, H. O., M.R.C.S.E., has been appointed Medical Officer for the Brampton Brian District of the Knighton Union, Radnorshire.

BRUCE, G. D., M.B., C.M., has been appointed a Joint House-Surgeon to the Royal Infirmary, Dundee, vice W. L. White, M.B., C.M., resigned.

CARTER, G. C., L.F.P. & S. Glas., has been appointed Medical Officer for District No. 2 of the Bodmin Union.

CLAPHAM, W. C. S., M.R.C.S.E., has been appointed House-Physician to the Dreadnought Infirmary, Greenwich, vice H. C. Martin, M.B., M.C., resigned.

DALZIEL, J., L.R.C.P.Ed., L.F.P. & S. Glas., has been appointed Medical Officer for the Westoe Township of the South Shields Union.

DAVIES, Mr. E., has been appointed Medical Officer and Public Vaccinator for the Glyncorrwg District of the Neath Union, vice T. L. Evans, L.R.C.P.Ed., M.R.C.S.E., deceased.

DRAKE, F. H., M.R.C.S.E., has been appointed House-Surgeon and Secretary to the Hartlepool Hospital, vice R. S. Smallman, M.B., L.R.C.S.I., appointed Medical Officer for the Wigan District of the Wigan Union.

DUKES, Mr. E., has been appointed Dispenser at the Dispensary, Roseberry-place, Dalston, in the Hackney Union.

DWYER, Dr. J. J., has been appointed Medical Officer and Public Vaccinator for the Dunboyne Dispensary District of the Dunshaughlin Union, Co. Meath, vice W. S. Johnston, L.R.C.S.I., L.M., resigned.

FARRINGTON, A. C., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer for District No. 5 of the Guiltcross Union, Norfolk, vice H. Ward, M.R.C.S.E., resigned.

GOLDIE, R. W., L.R.C.P.Ed., M.R.C.S.E., has been appointed Resident Medical Superintendent of the Poplar and Stepney Sick Asylum District Asylum at Bromley, Middlesex.

GOULD, F., M.D., M.R.C.P.L., has been appointed a Physician to the Chelsea, Brompton, and Belgrave Dispensary, vice E. B. Bogg, M.D., M.R.C.P.Ed., deceased.

HILLES, J. W., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer for the Gargrave District of the Skipton Union, Yorkshire, vice Harrison, resigned.

HUNT, H. J., L.R.C.P.L., M.R.C.S.E., has been appointed Medical Officer for District No. 3 of the Petworth Union, Sussex.

JONES, T., M.D., has been appointed Assistant-Physician to the Victoria Hospital for Sick Children, Queen's-road, Chelsea, vice E. B. Bogg, M.D., M.R.C.P.Ed., deceased.

KENT, R. M., M.R.C.S.E., has been appointed Medical Officer for the Beerferris District of the Tavistock Union.

LAST, W., M.R.C.S.E., has been appointed Medical Officer for District No. 3 of the Alderbury Union, Wilts, vice T. D. Atkins, L.R.C.P.Ed., M.R.C.S.E., resigned.

LIMRICK, W. S., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed an Honorary Medical Officer to the Waterloo Dispensary, vice J. Armstrong, M.B., L.R.C.S.Ed., resigned.

MOORE, F. S., L.R.C.P.L., M.R.C.S.E., has been appointed Medical Officer for the Carshalton District of the Epsom Union, vice W. E. Cressy, M.R.C.S.E., resigned.

ORR, J. A., F.R.C.S.I., has been reappointed Medical Officer for the Fleetwood District of the Fylde Union, Lancashire.

PEYCH, R., M.R.C.S.E., has been elected Resident Medical Officer to the York Dispensary, vice Cameron, deceased.

PHILPOT, C. W., M.D., B.Sc., has been appointed Resident Physician and Secretary to the Birmingham General Dispensary, vice G. F. De la Cour, M.D., resigned.

RAWLINGS, W. H., M.R.C.S.E., has been appointed Medical Officer for the Teignmouth District of the Newton Abbot Union, vice W. M. Richards, M.R.C.S.E., resigned.

Births, Marriages, and Deaths.

BIRTHS.

CHARLES.—On the 25th ult., at Calcutta, the wife of Dr. T. E. Charles, of a daughter.

EVANS.—On the 2nd inst., at Acacia House, Finchley-road, the wife of Evan Evans, M.D., R.N., of a son.

HEAD.—On the 22nd ult., at East Grinstead, the wife of Robert T. Head, M.R.C.S.E., of a son.

HINTON.—On the 19th ult., at Bath, the wife of Staff Assistant-Surgeon J. Hinton, of a son.

STEWARD.—On the 4th inst., at St. John's-square, Wolverhampton, the wife of T. T. Steward, M.R.C.S.E., &c., of a son.

TANNER.—On the 2nd inst., at Dudley, Worcestershire, the wife of R. C. Tanner, M.R.C.S., of a son.

MARRIAGES.

BONAIRA—OSBORNE.—On the 31st ult., at Christchurch, Marylebone, Emmanuel Bonaira, M.R.C.S.E., Surgeon Bengal Army, to Lucy Mary, daughter of G. A. Osborne, Esq.

BRINTON—GREENE.—On the 28th ult., at the Parish Church, Lilleshall, Richard James William Brinton, Esq., of Birmingham, to Alice, youngest daughter of John Greene, M.R.C.S.E, L.S.A., of Muxton, Salop.

DEATHS.

GEORGE.—On the 26th ult., at Malaga, Robert V. George, L.R.C.S.I.

HODGES.—On the 1st inst., at Redland, Bristol, Edward Hodges, M.D., aged 67.

PIGOT.—On the 26th ult., John M. B. Pigot, M.D., of Ruddington, Notts, aged 85.

ROBERTS.—On the 18th ult., Owen Roberts, M.D., of St. Asaph, aged 61.

SLY.—On the 27th ult., T. W. Sly, M.R.C.S.E., of West Haddon, Daventry, aged 77.

WOOLLEY.—On the 30th ult., Geo. Woolley, M.D., of Camden-road, formerly of Dunkeld.

Notes, Short Comments, and Answers to Correspondents.

THE FEAR OF CONVALESCENT SMALL-POX PATIENTS.

WE have received numerous letters complaining of the removal of small-pox patients to convalescent hospitals in the country, and particularly to one at Ascot. We desire to relieve the minds of our correspondents by stating that the greatest care is taken that no patient is discharged from the metropolitan hospitals so long as there is the least danger of contagion. It must be borne in mind that the marks of small-pox remain very perceptible for many weeks after all danger of imparting the disease has passed away. It is needful that the public should become familiarised with the disfigurement left by small-pox, and that they should cease to be alarmed by what must for some months to come be very common. We have reason also to know that not only are the cases retained a sufficient time in hospital to prevent the chance of contagion, but that the patients are repeatedly bathed, and their clothes entirely changed before discharge. Moreover, the removal to the country by means of ambulances is preferred to that by railways, less on account of any real danger to the public than out of consideration for the patients themselves, who are sensitively alive to the disagreeable sensation they create, and are naturally anxious to avoid the remarks of persons who are ignorant of the fact that they are free from danger. We appeal the more earnestly to the public not to feel alarm or oppose the removal to the country of convalescents from this loathsome disease, because there is no complaint which more seriously or more permanently affects the general health of the sufferer, and none, therefore in which residence in wholesome country air is more required for the permanent re-establishment of health.

Maison d'Essai.—The subject of the Jacksonian Prize for the present year is "The Treatment of Wounds after Operations, including the Arrest of Hæmorrhage, Primary and Secondary." The essay must be sent in by Christmas-day. The subject for the Fothergillian Medal is "Croup." The essay must be sent in by November 1st, 1871.

Kent wishes for information as to the best antidote for an overdose of chloral hydrate.

ARSENITE OF QUININE.

DR. DUJARDIN states, in the *Nuova Liguria Medica*, No. 4, 1870, that he has employed this salt with advantage in neuralgia of the cervical plexus, and has found that it succeeds when the neuralgia depends on perverted or insufficient nutrition. The quantity of the salt used never went altogether beyond four grains, and the patients recovered in between eight and ten days, the cure being, in all the cases observed by the author, permanent.

X. G. H., (Guy's.)—Yes.

Mr. T. Tinley.—The paper had unfortunately been mislaid, but, having now turned up, shall be inserted next week.

Ellis.—1. The local registrar of births and deaths.—2. Yes.

PRURITUS VULVÆ.

To the Editor of THE LANCET.

SIR,—In reply to "Chirurgicus," a letter from whom appears in your issue of to-day, asking for a suggestion in a case of pruritus vulvæ, I beg to inform him that a case similar to the one he mentions has been under my treatment, and that I have found the application of the undermentioned lotion (by means of a soft sponge after ablution morning and evening, or through the day should symptoms of approaching irritation at all manifest themselves) attended with the most satisfactory and speedy results:—Biborate of soda, two drachms; hydrochlorate of morphia, one scruple; hydrocyanic acid, one drachm; glycerine, one ounce; distilled rose water to eight ounces.

Yours faithfully,
W. M. MACGRATH, F.R.C.S.I.,
Southampton, April 1st, 1871. Surgeon, P. and O. S.S. *Delta*.

To the Editor of THE LANCET.

SIR,—Let "Chirurgicus" try solution of permanganate of potash, or, what, on account of its greater alkalinity, is better, Condy's fluid, applying it several times a day of full strength.

Yours, &c.,
April, 1871. H. W.

PROFESSIONAL ADVERTISEMENT AT WELLINGTON.

A Twenty Years' Subscriber wishes us to insert a letter, describing the "Wellington Medical Club" as advertised in small handbills, delivered by a hawker, and also describing a large placard placed on the walls adjoining a well-known and highly respectable blanket factory, stating the willingness of a certain surgeon "to attend members of the Factory Club at the same price as the medical men of the town." Were we to insert all such bills, circulars, placards, and advertisements that come to us, we should go far to filling a whole LANCET. Let us hope that the surgeon in question will reconsider his ways, and abandon advertising as an undignified and unprofessional path to success.

Colonel Ellis's letter has been noted.

Mr. Johnson.—The extract enclosed by our correspondent is, we have no doubt, simply one of those paragraphs which appear from time to time, less for the purpose of curing thousands by a remarkable remedy than for that of pecuniarily benefiting the individual.

THE communication of *Mr. Glaveile* has been received with thanks.

Mr. Charles B. Hay.—There is no law compelling the isolation of persons suffering from infectious diseases; but Section 38 of the Sanitary Act (1866) imposes a penalty of £5 upon any person so suffering from an infectious disorder who "wilfully exposes himself, without proper precaution against spreading the said disorder," in any street, public place, or public conveyance. The sanitary authority has, therefore, the means of putting a stop to the exposure referred to by our correspondent, which appears to be quite "wilful" in its character.

A Medical Officer to a Workhouse is entitled to the usual fee for giving evidence at an inquest on the body of any pauper dying in the workhouse, and also for the making of a post-mortem examination on the order of the coroner.

THE MEDICAL BILL.

To the Editor of THE LANCET.

SIR,—According to a report in one of your contemporaries, the deputation who lately waited upon Mr. Forster, with the object of explaining to him the provisions of THE LANCET Bill, were received by that gentleman somewhat uncourteously. I will hope that there is some inaccuracy in the report of what took place on that occasion; for I can hardly believe that a member of a Liberal Government, and that member a leader in the great educational movement of the day, could so bluntly avow himself the champion of exclusive corporate privileges, and, for educational purposes, of corporate inefficiency. The force of official doggedness could go no further than in the expressions attributed to Mr. Forster in that report. It is incredible that he could have ventured to maintain, in the face of the recorded opinions of several thousand members of our profession upon the question of medical education, that the scheme laid before him had not its countenance. If Mr. Forster did not know, there were those present who could have told him that for nearly fifty years past the pages of THE LANCET have teemed with the dissatisfaction felt by the profession on the existing state of things, and that it had been the medium through which the demand has unceasingly been made for a "one-portal" test, above all suspicion, as the condition of admission of its members.

This is not the first time that Mr. Forster has heard of expressions of dissatisfaction on the part of the profession as to the proceedings of the Medical Council. The measure under discussion is not a mere hole-and-corner affair; it was brought under the notice of the Minister by men of note and standing in the profession; it has been thoroughly ventilated in our ranks; it is daily receiving significant support from men of weight, and is, indeed, by no means the hopeless matter that he is said to have represented. It has come before the House of Commons with very considerable prospect of success. The Government may feel sore at the successful resistance to its own measure in the last session of Parliament, and, may, therefore, look anything but cordially on this Bill; but whatever be its present fate, its principles must ultimately prevail. The feeling of irritation may possibly explain how it is that the usual official indifference to questions of medical reform has suddenly become converted into energetic advocacy of corporate inefficiency. The corporations are fortunate (?) in this unlooked-for aid, since small indeed is the favour they find in the mass of medical practitioners, who have but little to thank them for. When was it known that one of these bodies made a forward step in medical education, except under the influence of pressure from the profession at large?

Of the inefficiency of the examining boards that have been, no further proof is needed than the results of the tests to which candidates for army appointments have been subjected. The disgraceful disclosures of culpable ignorance before the Army Board are more than enough to condemn the system under which they are possible. Let anyone read Dr. Parkes's speech at the Medical Council on the 30th April, 1864, and if, after perusing the specimens there given of answers by rejected candidates, he does not concur in the damning censure passed upon the corporate examiners by Dr. Parkes, he must be, as James Paget pithily expresses the intellectual attributes of one of the said candidates, "dull all over." "The medical corporations," says Dr. Parkes, "admit a number of men into the profession who cannot practise their calling with safety to their patients." It is time that such a state of things was ended for ever; and the only means of putting an end thereto is the institution of one uniform examination for all candidates by boards of independent examiners, men up to the present mark in the medical sciences, men who shall not be their own critics, and who are not directly interested in the number of candidates they may pass. The competition among examining boards should be abolished, and their proceedings conducted under authoritative supervision. Under such circumstances only can the public have a well-founded confidence in those to whom they are compelled to have recourse for succour under the various ills that flesh is heir to. Public interest demands this reform, and professional interest concurs in the demand; the two interests are inseparable. Moreover, they are combined in the Bill, which has deservedly come to be called THE LANCET Bill. The opinion of the profession will, I doubt not, before long be unanimous that this Bill has the immense advantage over others that have been brought forward, inasmuch as it has regard to all interests. The Council it proposes will provide for—

1. Those of the public through the Crown nominees.
2. Those of the corporations through their delegates.
3. Those of the profession by direct representation.

A Council thus equally and, it may be said, equitably constituted will be the best judges of the tests to which candidates shall be submitted, and will be free to appoint the fittest examiners without fear or favour.

The present movement is distinctly not political, but educational, and is supported by many distinguished members of the profession. As such it was with some surprise, and not without indignation, that I read of Mr. Forster's reported want of courtesy towards the deputation. I was not, I would further add, prepared to find your contemporary betrayed into the flippancy of treating this matter as a joke, the good taste of which is, to say the least, more than questionable.

I am, Sir, your obedient servant,

Holloway, March 25th, 1871. W. B. KESTEVEN, F.R.C.S.

LEFT-HANDEDNESS.

VARIOUS attempts have been made to account satisfactorily for the use of the left in preference to the right hand in those in whom this peculiarity exists, but without success. Dr. Pye-Smith takes up the question in a short article in the volume of the Guy's Hospital Reports just issued; and, disposing of the theories that left-handedness is to be accounted for by transposition of the viscera, as asserted by Von Baer and others, or by an abnormal origin of the primary branches of the aorta, especially of that in which the right subclavian arises from the third part of the aortic arch, proceeds to argue that, though in the progress of civilisation one or other hand would come to be selected for the more characteristic human actions for which one only is required, such as the use of a pen or a weapon, yet it is not so apparent why the right should be selected for those purposes. But, in default of a better suggestion, he hazards the hypothesis, by way of illustration, that right-handedness arose from modes of fighting adopted, from being found to be followed by the least serious consequences; though he thinks that search amongst savage tribes may discover the existence of some other common habits, perhaps tending to the same end. But, as regards fighting, he remarks: "If a hundred of our ambidextrous ancestors made the step in civilisation of inventing a shield, we may suppose that half would carry it on the right arm, and fight with the left; the other half on the left, and fight with the right. The latter would certainly in the long run escape mortal wounds better than the former, and thus a race of men who fought with the right hand would gradually be developed by a process of natural selection." Of course the habit once acquired of using the right hand more than the left would be hereditarily transmitted from parent to child. However induced, left-handedness is a return to a condition which, as one of the varieties of the primitive ambidextral state, has now died out.

A. S.—The remedy mentioned is unknown to scientific men. Our correspondent is unduly concerned about his case. It is not so sorrowful as he thinks, and only requires the advice of a respectable and sensible medical practitioner. As he prizes his peace, his health, and his money, let him avoid quacks that vaunt certain and mysterious cures.

Mr. Sandford Moore (4th Dragoon Guards) will perceive that his request has been attended to; but, owing to the pressure on our space, we have been compelled to divide his paper.

NITROUS OXIDE GAS.

To the Editor of THE LANCET.

SIR,—Where can be procured the apparatus necessary for administering the nitrous oxide gas for the extraction of teeth? I extract a very large number of teeth for all classes, and I am being continually questioned, "Why don't you use the gas, and thus give us no pain?" I see no mention of the apparatus in the catalogues of instrument makers. Does it require any special instruction to administer the gas, and if so, where can that be obtained? Yours truly,

Paddletown, April, 1871. R. S. P. T.

SANITARY MATTERS IN MASSACHUSETTS.

OWING to the courtesy of the State Board of Health of Massachusetts, of which Dr. H. J. Bowditch, of Boston, is Chairman, we have received a copy of the Annual Report of the State Board of Health of Massachusetts for 1870. The volume contains some excellent papers, to some of which we hope to refer hereafter. Among these articles we may mention those on Typhoid (Enteric Fever), the Health of Towns, a letter on the Houses for the People, Convalescent Homes and the Sewage Question, and the correspondence concerning the Effects of the Use of Intoxicating Liquor. There is also an article on the Ventilation of School-houses, which, so far as a hasty perusal allowed us to form an opinion of it, advocates a system of ventilation allied, in principle at any rate, to that known in this country as "Jebb's system of ventilation," which is now ascertained to be far from a good and effective one.

Mr. T. E. Jacobson and *J. W.*—Address B. C. Hook, Esq., 9, Union-court, Old Broad-street, E.C.

THE communication of *Mr. E. Smith* (Kirkby Malzeard) arrived too late for notice this week.

Mr. C. S. Walker.—The work of Dr. Beigel.

EXAMINATION AT THE COLLEGE OF SURGEONS.

To the Editor of THE LANCET.

SIR,—As you are always willing to act the part of the student's friend, will you allow me to ask through your columns whether bullying is essential to the thorough examination of students at the College of Surgeons? I believe that a large number who fail to pass do so through nervousness caused by the tone and manner of the examiners. Of course several of the examiners are notable exceptions to this rule. Yours truly,

March 30th, 1870. STUDENS.

P.S.—I am not a disappointed candidate.

T. H. M. sends to us for publication an account of the manner in which he has been annoyed and cheated by a drunken and unprincipled assistant. It would answer no useful purpose to publish the letter, and might expose us to an action for libel. But our correspondent seems to have employed the delinquent simply upon the strength of his own recommendation of himself, and the moral of the story is that every practitioner engaging an assistant should insist upon a reference to the last employer.

R. M., (Nottingham.)—We will inquire.

SANITARY SUPERVISION IN LAMBETH.

THE *South London Press*, in an article upon this subject, comments upon a proposition emanating from the General Purposes Committee of the vestry to increase the number of nuisance inspectors from three to four, and asserts that the remedy will not suffice for the wants of the parish. Not so much more inspectors as a better system of inspection is declared to be necessary. Thus three inspectors visit 16,000 houses in the year in Camberwell, and 16,293 in the City of London, but in Lambeth only 1335. The *Press*, therefore, argues that there must be something wrong in the system, and points out that what is really wanted is more complete and systematic supervision on the part of the medical officer of health, who at present is said to have no stated times of attendance at the vestry offices, and whose means of communicating with the inspectors are anything but "constant." No blame is attributed to Dr. Buckle, who has done "all that he contracted for," the suggestion being rather that the sanitary interests of so large a district as Lambeth require the constant and entire services of a medical officer. Of course this involves a proportionate increase of the medical officer's salary; but there is little question that the investment would be a sound one, and that the result of it would be satisfactory.

Mr. Herbert Cooper, (Wootton Bassett.)—It is contrary to our custom to publish communications that have been forwarded to other journals.

Dr. Fotheryill's (Leeds) paper has been received.

BRAN BREAD.

To the Editor of THE LANCET.

SIR,—Having seen a letter in your journal a short time ago from a "General Practitioner," asking some medical man to kindly favour him with a formula for making a bran loaf, I beg to furnish you with the enclosed formula for publication, and trust that your readers will find it to be a useful and an efficient one. During the last three or four years I have frequently prescribed it for my patients suffering from dyspepsia, and have always found favourable results after its administration.

The formula used by me is as follows:—Take a sufficient quantity (say two or three quarts) of wheat bran, boil it in two successive waters for ten minutes, each time straining it through a sieve; then wash it well with cold water (on the sieve) until the water runs off perfectly clear; squeeze the bran in a cloth as dry as you can; then spread it thinly on a dish, and place it in a slow oven. If it is put in at night, let it remain until the morning, when, if perfectly dry and crisp, it will be fit for grinding. The bran thus prepared must be ground in a fine mill, and sifted through a wire-sieve of sufficient fineness to require the use of a brush to pass it through. That which does not pass through at first must be ground and sifted again until the whole is soft and fine. Take of this bran powder three ounces, three fresh eggs, one ounce and a half of butter, rather less than half a pint of milk; mix the eggs with part of the milk, and warm the butter with the other portion; then stir the whole well together, adding a little nutmeg and ginger, or any other agreeable spice. Immediately before putting into the oven, stir in first thirty-five grains of carbonate of soda, and then three drachms of dilute hydrochloric acid. The loaf thus prepared should be baked in a basin (previously well buttered) for about an hour or rather more. Biscuits may be prepared as above, omitting the soda and hydrochloric acid and part of the milk, and making them of a proper consistence for moulding into shape. If properly baked, the loaves or biscuits will keep several days, but should always be kept in a dry place, and not be prepared in too large quantities at a time. Yours truly,

Williton, March 11th, 1871. ALFRED BROSTER, M.D.

THE AMENITIES OF THE PROFESSION IN MELBOURNE.

We have received a correspondence from the *Age*, of Melbourne, the writers being Mr. Reid, of the Geelong Hospital, on the one hand; and Dr. James Edward Neild, on the other. We cannot profess to give an opinion on the merits of the case between these gentlemen; but it is pitiable to see disputes between medical men blazoned in new-paper letters for the entertainment of the public. No amount of credit for literary smartness can compensate for the consciousness of making a display of the littlenesses and the animosities which obtain even among medical men. If the *Herald* is to be believed, it would seem that the same personalities have been introduced into the Medical Society of Victoria, with great damage to its dignity and usefulness as a scientific Society. Is there no ethical authority to which such questions could be referred? It is vain to expect the public to respect the profession while such a want of mutual reverence is displayed by medical men.

Dr. George Buchanan (Glasgow) has omitted to forward the work to which he alludes.

SMALL-POX AMONG THE UNVACCINATED.

THOSE who think with "Dr." Pratt, of Durham, and his brother anti-vaccinationists that small-pox is a less evil than vaccination should transfer themselves to the Punjab, which is practically an unvaccinated district, and the condition of which is described in a recent letter to *The Times* by the Sanitary Commissioner of the Punjab, Dr. A. C. C. De Renzy. "In that Province," says the writer, "with a population of 18,000,000, the deaths from small-pox are never less than 20,000 a year. In 1869 they numbered 53,196." In England the average annual mortality does not exceed 5000, though previous to the introduction of vaccination it was quite as high as it is now in the Punjab. The disfigurement of the population and the large amount of blindness caused by the disease strike any person walking in the streets of a Punjab city. Our anti-vaccinationists would not be betrayed to if the real results of unmodified small-pox could be seen on a large scale.

Mr. C. P. Carter, (Kennington-wall.)—Our correspondent's letter shall receive attention.

COMMUNICATIONS, LETTERS, &c., have been received from—Prof. Parkes; Mr. De Morgan; Dr. Wilks; Prof. Erichsen; Mr. Henry Lee; Prof. Bollini, Turin; Dr. Protheroe Smith; Mr. Hugh; Mr. J. D. Hill; Mr. Collins; Mr. James, Cwm Avon; Dr. de la Cour, Birmingham; Mr. MacGrath, Southampton; Dr. Dun, Los Angeles; Mr. Fenn; Dr. Granville, Trinidad; Mr. May, Birmingham; Dr. Waters; Dr. Attfield; Mr. Greene, Birmingham; Dr. Gerrard, Morant Bay; Mr. Tinley, Whitby; Dr. Kraus, Vienna; Mr. Dent; Mr. Holding; Mr. Kelly, Brecon; Mr. Ward; Mr. Charlwood, Epsom; Mr. Read, Burton-on-Trent; Mr. Kelly, Sandford; Mr. Jones, Llangollen; Dr. Callaghan, Cork; Mr. Chepmell; Dr. Gayton, Homerton; Mr. Noble; Dr. Corbet, Romford; Mr. Evans; Mr. Jacobson; Mr. Field; Dr. Dyer, Ringwood; Mr. Jones, Long Melford; Mr. Walter; Dr. Sharpe, Bombay; Dr. Rowland, Malvern Wells; Mr. Leonard; Mr. B. A. Jamieson, Shanghai; Colonel Ellis, Starcross; Mr. Morton, Brightside; Mr. Henry; Mr. Owen, Birmingham; Mr. Dawson, Old Swindon; Mr. Williams, Birmingham; Mr. Rendle; Mr. Birch; Mr. Tregarth, Holywell; Mr. James; Mr. Harvey, Buxton; Mr. West, Birmingham; Mr. Thorne; Mr. Waters; Dr. Gill; Dr. Bruce, Corbridge; Dr. Fothergill, Leeds; Mr. G. B. Black; Mr. Ellis; Dr. Smith, Ripon; Mr. S. Moore; Mr. Branston; Dr. Limrick, Waterloo; Mr. Thomas, St. Asaph; Mr. J. Chastelaine; Mr. J. Craven, Westerham; Mr. Pottle; Mr. Hodges, Birmingham; Dr. Myles, Limerick; Dr. Manley; Mr. Nicholls; Dr. Griffith, Oldcastle; Mr. Manby, Wrexham; Mr. Graham; Mr. Lorrell, Tamworth; Mr. Robins; Dr. Godfrey, Enfield; Surgeon-Major Atchison; Mr. Hay; Dr. Sturman; Dr. Long; Mr. Pickles; An Indian Member; R. S. P. T.; H. W.; Medicus; A Constant Subscriber; R. M., Nottingham; A Medical Officer of a Workhouse; A. S.; K. C. H.; Edin.; M.R.C.S.; Glasgow; &c. &c.

Epsomian, Trinidad Royal Gazette, Times of India, North Wilts Herald, Jamaica Guardian, New Zealand Herald, Liverpool Daily Courier, Liverpool Mercury, Scottish Naturalist, Dewsland Guardian, Parochial Critic, Oswestry Advertiser, Bayswater Chronicle, and *Brighton Guardian* have been received.

Medical Diary of the Week.

Monday, April 10.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

Tuesday, April 11.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
GUY'S HOSPITAL.—Operations, 1½ P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M.
ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—8 P.M. Ballot.—8½ P.M. Dr. Silver, "On a Case of Retrogressive Labio-Glosso-Laryngeal Paralysis." Dr. Robert Lee, "On Amputation of the Cancerous Breast."

Wednesday, April 12.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.
LONDON HOSPITAL.—Operations, 2 P.M.
CANCER HOSPITAL.—Operations, 3 P.M.
EPIDEMIOLOGICAL SOCIETY.—8 P.M. "The Epidemic of Relapsing Fever": papers by Mr. T. J. Dyke (Medical Officer of Health, Merthyr Tydfil), Dr. Robinson (Medical Officer of Health, Leeds), Dr. Buchanan, and Mr. J. Netten Radcliffe.

Thursday, April 13.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 12; other Operations, 1 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Friday, April 14.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
QUEKETT MICROSCOPICAL CLUB.—8 P.M.
CLINICAL SOCIETY OF LONDON.—8½ P.M. Dr. Broadbent, "On Phosphorus as a Remedy in Skin Diseases." — Dr. Sims, "On a Case of Left Hemiplegia, with total Loss of Right Eye."—And other papers.

Saturday, April 15.

ST. THOMAS'S HOSPITAL.—Operations, 9½ A.M.
HOSPITAL FOR WOMEN, Soho-square.—Operations, 9½ A.M.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M.
KING'S COLLEGE HOSPITAL.—Operations, 1½ P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.